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ESTIMATING

A METHOD OF

PRICING BUILDERS QUANTITIES

FOR

COMPETITIVE WORK.

6/6

ESTIMATING:

A METHOD OF

PRICING BUILDERS' QUANTITIES

FOR

COMPETITIVE WORK.

BY A PRACTICAL ESTIMATOR.

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PREFACE.

ONE of the most difficult tasks a builder has is to frame a careful estimate for work he is tendering for, even when the quantities are supplied. It has been the subject of oft-repeated remarks that there should be so much variation in the views taken by the several competing firms. This seldom applies to our principal builders, who keep a competent estimating clerk; others do not do this, but leave the work in the hands of an ordinary clerk, or sometimes a foreman, when mostly a price-book is used—a book that may be useful as a reference in certain cases, but which is delusive as an aid to competition. Sometimes the builder himself prices it from a similar source, the result being in either case, as we often see in the lists of published tenders, a variation of 20 to 30 per cent. in six or eight tenders.

I have seen estimates where the joiner's bill, usually one of the largest, has been priced from such a source as I have mentioned at *fifty per cent.* above the prices used by competent men, and yet the estimate has been only about *fifteen* per cent. above the lowest of the others, showing that some of the prices must have been as comparatively low; in such an estimate, I have seen rough timber in lintels, &c., priced at 3s. 6d. per foot cube, the value being, at 10 per cent. profit, 2s. 6d.; and the brickwork in the same estimate being priced at £11 5s. per rod, the value being, at 10 per cent. profit, £13 15s.; so that, if the work is varied much, more brickwork introduced, and less timber, how stands the chance of profit?

When the quantities are not taken out, and few of the principal builders will take them out themselves in competition, the variation at times is simply enormous—often extending to *one hundred* per cent., and yet the lowest is mostly accepted. In the following work I propose to show how to learn to price an estimate without the use of a price-book: with careful attention, a diligent student may soon learn the ground-work or basis for estimating for work to any extent, and be able at any moment to price a set of quantities without any aid except a pencil or pen and ink.

THE AUTHOR.

November 1882.

ESTIMATING.

THE bills of quantities I use were supplied by a well-known London Surveyor to Builders to estimate from, and the work was a villa residence at Hampstead; the estimate framed on the prices given was barely 2½ per cent. above the lowest.

It is necessary to offer a few preliminary words of advice before commencing bill No. 1.

When estimating, be careful to read the headings of each bill, as, although they mostly contain the description of materials, they often contain items requiring pricing, and notes that affect the prices of the measurements given in the body of the bill.

It will be necessary to visit the site, and note its surroundings, the facilities for getting materials upon it, the amount of space to work on, the nature of the soil (experience will soon teach you the formation of most of the land round and in London).

The plans, form of contract (and in cases the specification) must be carefully examined, obtain prices for bricks, sand, and ballast delivered on the site, though it will be better, when well experienced, to wait until the work is secured before obtaining them, as the merchants are more likely to give low quotations when they know you are able to place the orders with them. Where there are specialties, such as a large quantity of iron, cast or wrought, terra-cotta, carving, etc., prices should be obtained, even where experienced.

Many estimates are priced at prime cost, and the profit added in one sum at the end of the summary; but I, for many reasons, prefer the system I give here, of adding the profit to each item, although the 10 per cent. often runs into parts of a penny.

The cost prices are mostly obtained from lists, such as are supplied to builders by their merchants, and the materials are in all cases to be bought for the sums I give.

BILL No. 1.

PRELIMINARY AND PROVISIONS.

All extra works and omissions to be measured and valued at the prices on which the contract is based, and the contractor will be required to deposit a copy of the estimate fully priced and moneyed out with the architect for that purpose.

It is not usual to enter any sum to this item.

Allow for making good all defects which may appear within six months after completion, including work injured by frost, &c.

This will, of course, vary with the amount of work to be upheld, and is a very speculative item.* I value it in this case at £5 per £1,000 of work; and as this estimate comes to about £2,000, say £10.

INSURE TO THE AMOUNT OF CONTRACT IN SOME GOOD FIRE OFFICE.

It is the practice to set forth in many specifications that the work is to be insured for two-thirds, or three-fourths of the amount of contract; but it will be wiser for the contractor to insure for the *full* amount, as here stated. The rate for buildings in course of erection is 2s. 6d. for every £100 of value for twelve months; this gives, for £2,000, £2 10s., to which add 10 per cent.; if for six months only, and in this case I think it would be sufficient, the charge

---

*** To keep the cost of this item down as low as possible, it is necessary, in the carrying out of the works, to see that they are done carefully, the floors seasoned and properly cramped up, the joiner's work made of well-seasoned deals, &c., framed together in skeleton, and left some time before glueing up, the lead and slate-work water-tight, hot-water and other pipes tested, &c.**

varies from 1s. 6d. to 2s.; it is not usual to insure before the roof is on.

PROVIDE WATER FOR THE WORKS.

This will vary very much with the district the work is done in, the charges of the different water companies differ, to the extent of 200 per cent.; this work is in the West Middlesex Water Company's district, and their charge is 3d. in the £, on the rental value of house, for six months' use, and 5s. for opening ground and providing ferrule. Put the rent at 7½ per cent. on cost, *i.e.* £150 per annum; this gives £1 17s. 6d., the length of lead pipe under road, say, 30ft. of ¾ in., a few lengths of iron pipe inside hoard, and a ball-cock and ball.

	£	s.	d.
Cost of water	1	17	6
Opening ground, &c.	0	5	0
*30 ft. ¾ in. pipe at 10d.	1	5	0
30 ft. ¾ in. iron pipe at 6d.	0	15	0
Ball-cock and ball, and joint	0	6	0
Union, iron to lead, and joint... ...	0	3	3
	4	11	9
10 per cent. on two first items ...	0	4	3
	4	16	0

From which there is really the credit of material at finish.

GIVE NOTICES TO DISTRICT SURVEYOR AND THE LOCAL AUTHORITIES, AND PAY THEIR FEES.

The following is a list of fees payable to the district surveyor under the Metropolitan Building Acts :—

FEES FOR NEW BUILDINGS.	£	s.	d.
For every building not exceeding 400 square feet in area, and not more than two stories hight[†]	1	10	0
For every additional story	0	5	0
For every additional 100 ft. or fraction of such 100 ft. (but no fee shall exceed £10)[‡]	0	2	6
And for every building not exceeding 400 square feet in area, and of one story only in height, the fee shall be ...	0	15	0

---

[*] The detail of some of these prices is given in the plumber's bill to follow.

[†] The basement floor is counted as one.

[‡] Where buildings are divided by fireproof divisions or party-walls, separate fees are claimed by the surveyor.

FEES FOR ADDITIONS AND ALTERATIONS.	£	s.	d.
For every addition or alteration made to any building after the roof thereof has been covered in, the fee shall be half of the fee charged in the case of a new building.			
For inspecting the arches or stone floors over or under public ways *	0	10	0
For inspecting the formation of openings in party-walls	0	10	0
For inspecting dangerous structures by direction of the Commissioners of Police or Sewers	1	0	0

Note.—Area includes the area of any attached building.

I find I have fixed this item at £5. To get it correctly, refer to the plans, and take the dimensions, &c., and price out at the above schedule, and then add the fees payable to the vestry, for license for hoard, generally 2s. 6d. per month, adding profit as before.

EACH TRADE TO ATTEND ON ALL OTHERS, AND DO ALL JOBBING WORK REQUIRED.

This is a speculative item which nothing but practice can give you the value of. For a work of this extent, I put it at £5; but the work will not increase in the same ratio that the amount of contract does. For a contract of £7,000, I should price this item at £7 10s.; for one of £10,000, £10. And these items will include attending on plumber, and bellhanger, and plasterer making good, but attendance on gas and hot water is not included.

CLEAR AWAY RUBBISH, AND LEAVE THE PREMISES CLEAN AT COMPLETION.

This item includes the following :—

	£	s.	d.
Clear away rubbish that accumulates from time to time, say	3	0	0
Scrubbing floors	1	0	0
Cleaning windows	1	0	0
This sum includes profit	5	0	0

---

* This applies to coal and other cellars under the street paving.

ALLOW FOR ANY NECESSARY HOARDING FOR THE PROTECTION OF WORKS, AND FOR TEMPORARY SHEDS, &c.

This must be valued when the site is visited. A hoard 7 ft. high is worth about 1s. per foot run, for "use and waste," and putting up and taking down; a small fan over 6d. per foot run extra; and a 4 ft. planked footway, with rails and posts and sleepers for planks to rest on, 8d. per foot run (these prices are low, and require close supervision to get them done at a profit). If the hoard is in a good position, it can be let for the purpose of bill posting at 2d. to 6d. per foot superficial per month, varying with the position, 6d. being for the very best, *i.e.*, West-end and City main thoroughfares; temporary sheds are seldom priced, being considered part of the necessary plant required for the work, just as a foreman's office, scaffolding, &c., is needed.

In making up the cost in the cost-book it is usual to add from 2½ to 5 per cent. for expenses, &c., *i.e.*, for the office expenses and rent at builder's yard and wear and tear of such items as above. The 10 per cent has to cover this.

Allow for cutting away for attending on and making good in all trades to gasfitter in fixing of gaspipes.

There is a good deal of work entailed in attending on the gasfitter. This is more especially the case where the builder does not carry out the work. Very often the gasfitting, where there is a sum of money provided, is let by the architect to a gasfitter. Of course, in pricing such items as these, it is only possible to assume a value. The united time of bricklayer, carpenter, and plasterer would be about a week—*i.e.*, 52 hours at 9d.; and add for blocks, plaster, etc., 4s. or 5s.—in all 50s.

Allow for attendance on hot-water engineer in fitting up hot-water pipes to bath, lavatory, and sinks.

A similar amount to the last will cover this. There will be the same variation in the cost if the builder's men do not do the work, and it is given direct to a so-called "Engineer."

For further particulars see "General Conditions."

This is an item which really means, on the part of the surveyor, "I have now included all that I consider needs a price attached to it." The contract and specification, however, should be referred to by the careful estimator, to see if there is anything there not "taken out" in the quantities, and requiring a price to be included for it, though it is seldom anything is missed by a competent surveyor. The builder should notice the time for completing contract and method of payment. Many surveyors now insert these two items in the preliminary bill.

PROVISIONS.

The following provisions are to be expended as the architect may direct, or to be deducted in full from amount of contract:—

Provide the sum of £80 for stoves and chimneypieces,
Provide the sum of £8 for tile hearths.
Provide the sum of £40 for hot-water apparatus, bath, and lavatory fittings.
Provide the sum of £10 for laying on gas.
Provide the sum of £15 for cupboard fittings.
Provide the sum of £21 12s. for 133 ft. of lead-lights, and fixing.
Provide the sum of £50 for incidental work to be ordered by the architect.

These provisions are inserted in the fairest manner possible, as when expended through the contractor he will be entitled to have his profit added to the amount paid by him. It is a custom with many architects to say of provisions: "These prices are *P. C.*, and the contractor must add his profit, &c." If the work is *wanted* by the contractor, he seldom adds anything to the so-called *P. C.* prices, but relies on the trade discount for a profit. Where the discount is allowed, this often leads to a dispute between architect and builder as to whether *P. C.* means *list* prices or nett after deducting the trade discount.

BILL No. 2.

EXCAVATOR AND DRAINS—THE EXCAVATING TO INCLUDE ANY NECESSARY STRUTTING AND PLANKING.

Before commencing the pricing of this bill, it is necessary to draw attention to a very needful precaution. Be sure to carefully read the dimension you are about to price, as surveyors vary in their system of "billing." Note whether yards or feet, cube, super., or run.

122 yds. cube. Excavate for basement, and wheel and deposit on site:—

The nature of the soil here is clay; this the estimator's visit to the site will have taught him; the cost of digging and wheeling clay is about 8d. per yard cube if let "piecework" to the men. If done daywork, more. A liberal profit should be added to excavating, as there must be a foreman on the site, superintending this one trade, and the items are not large. A small amount must be added if strutting be necessary. This the sections and the visit to the site will determine. Put the cost of digging at 9d. daywork, for safety, strutting, &c., 1d. and add 2d. for profit and foreman, making 1s. per yard cube in all.

This price is more than is given in price-books; but experience will, I think, prove I am correct. There is, in this excavator's bill, a query whether any allowance has been made for slopes, or whether he considers that, if the sides are strutted, they do not require to "batter."

Light soils, such as loam and mould, can be let at 6½d. to 7d. per yard cube, and where the quantities are much larger than in this bill they can be done at a little lower price.

57 yds. cube. Excavate to surface trenches, part fill in and ram, and wheel and deposit the remainder:—

Take the first item as a basis, and add half the value of filling and ramming. Filling and ramming is worth 6d. per yard—this presumes that about one-half of the excavated clay, &c., is to be wheeled back and rammed in over the footings, &c.; half the value, being 3d. per yard, added to first item, makes 1s. 3d. per yard for this.

21 yards cube. Excavate to basement trenches, part fill in and ram, and wheel and deposit the remainder:—

Add a further sum of 3d. for deeper digging to trenches. The cost of this is a little over 2d. and where there are large quantities it can be let at 2d. or at one sum inclusive, with the other digging.

274 yds. super. Excavate vegetable soil 12 in. deep, and wheel and deposit on site:—

As this is likely to be grass land, it is worth as much as the first item in clay per yard cube, as you have to cut through the turf; if it be in mould only, then you can price it at twopence less per yard cube; pricing this 12 in. deep, *i.e.*, one-third of a yard cube to the yard super., at 1s. per yard cube, it comes to 4d.

30 *yds.* run. Excavate for pipe:—

This refers to a narrow and shallow trench for water and gaspipes about 2 ft. deep, and is worth one penny per *foot* run, including profit.

11 yds. cube. Hard dry material filled in and rammed under pavings:—

This is the broken brick and dry rubbish that accumulates on the site, spread, and levelled to form a dry and firm bed for stone and other pavings. To buy such rubbish the cost would be about 4s. per yard cube; but as you have it on the works, it would not be necessary to charge for any more than the labour, say 2s. per yard to carry, break up, spread and level, and ram, including profit. This is priced low because there is not more required than I think would be found on the works; I do not think it would take eleven yards for a house of this size. This ought to be taken super., to show the amount of labour more clearly.

47 yds. cube. Concrete formed of 5 parts of hard burnt ballast or clean gravel to 1 of ground stone lime.

Here the prices of lime and ballast are necessary. Ground grey lime costs, delivered at Hampstead, 13s. 6d. per yard, and ballast, 7s. 6d.

	£	s.	d.
5 yards of ballast at 7s. 6d....	1	17	6
1 yard of lime	0	13	6
Divide by six)	2	11	0
	0	8	6
Add 10 per cent. waste	0	0	10
	0	9	4
Cost of labour	0	1	2
P.C.	0	10	6

But, as *burnt ballast* may be used, this price can be reduced to the following:—

	£	s.	d.
5 yards of burnt ballast at 3s. 9d. ...	0	18	9
1 yard ground lime	0	13	6
Divide by six)	1	12	3
	0	5	4½
Add 10 per cent. waste	0	0	6½
	0	5	11
Cost of labour	0	1	2
	0	7	1
10 per cent. profit	0	0	8½
	0	7	9½

52 yds. super. concrete, 6 in. thick, levelled for paving:—

This may be priced at the same rate as last item, being 6 in. thick—that will be 1-6th of 7s. 9½d.; add for additional labour spreading, 1½d. per yard—in all 1s. 5d.

33 yards super. Level and ram surface for yard-paving and lay burnt ballast, 6 in thick, levelled and rammed, and the surface grouted with lime:—

Level and ram is worth 2d. per yard super.

	£	s.	d.
One-sixth of a yard of ballast at 3s. 9d.	0	0	7½
Labour as above	0	0	2
Ditto, laying ballast	0	0	2
Grouting, including lime	0	0	3
	0	1	2½
10 per cent. profit	0	0	1½
	0	1	4

33 yds. super. tar-paving, 2½ in. thick, laid in best manner and well rolled:—

The cost of tar-paving is 2s. 3d. per yard super., laid complete in fair quantities; but this being a small quantity, will cost 2s. 6d to 2s. 9d., say 3s. with profit.

DRAINS.

106 ft. run 4 in. glazed stoneware drain-pipes, half-socketed where required, jointed in cement, and puddled round with clay; and excavation, average 2 ft. deep, and filling in and ramming:—

The cost of 4 in. drain-pipes delivered on site is 3d. per foot run; the digging and filling costs 1d. per foot run for each foot in depth, *i.e.*, 2d. per foot run 2 ft. deep, laying including cement and puddling, 2d. per foot, to these add 1d. for profit, making 8d. in all.

34 ft. run 4 in. drain-pipe, &c., as last, but digging 4 ft. deep.

Add to the last item 2d. for deeper digging, making 10d.

30 ft. run 6 in. drain-pipe, &c., as before, and 3 ft. digging.

	£	s.	d.
Cost of 6 in. drain-pipe per foot ...	0	0	4
Digging 3 ft. deep	0	0	3
Laying in cement and puddling in clay (a little more than 4 in.)	0	0	2½
	0	0	9½
Add profit 10 per cent.	0	0	1
	0	0	10½

38 ft. run 6 in. drain-pipe, &c., all as last, but 6 ft. digging.

To the last item add 3d. more for deeper digging, and say 1d. for battering (*i.e.*, sloping the sides to keep them up), and for extra width of trench in consequence, and extra profit, making 1s. 2½d. in all.

30 ft. run 6 in. drain-pipe, &c., as last, but 10 ft. digging.

	£	s.	d.
To the last item of	0	1	2½
Add for 4 ft. deeper digging	0	0	4
Add for strutting sides, including use and waste	0	0	6
Add for throwing last 4 ft. one stage, it being too deep for a man to throw out direct, 6 ft. being the limit set down for one throw	0	0	2
	0	2	2½
Add profit on last items...	0	0	1½
	0	2	4

20 ft. run 6 in. drain-pipe, &c., as last, but excavate in road, average 13 ft. deep, and making good.

	£	s.	d.
To the last item	0	2	4
Add still deeper digging (this can be done with one stage)	0	0	3
Add cost of breaking-up and re-metalling roads, and watching for one night may be needed	0	0	6
Add for extra strutting, as the trench must be carefully strutted	0	0	3
	0	3	4
Add profit on last items...	0	0	1½
	0	3	5½

No. 5.—Extra for 4 in. bends:—

This is, add only the extra cost of bend over the cost of 4 in. drain-pipe.

	£	s.	d.
Cost of 4 in. bend	0	0	10½
Less cost of 1 foot of 4 in. pipe... ...	0	0	3
	0	0	7½
Extra labour laying, say	0	0	1
	0	0	8½
Add 10 per cent. profit	0	0	1
	0	0	9½

No. 2.—Extra for 6 in. bends:—

	£	s.	d.
As last, add extra cost of bend	0	0	9½
Extra labour	0	0	1½
	0	0	11
Add 10 per cent. profit	0	0	1
Say	0	1	0

No. 3.—Extra for 4 in. junctions:—

These are about the same value as the 4 in. bends, and they are 2 ft. long.

	£	s.	d.
Cost of 4 in. junction	0	1	0
Less cost of 4 in. pipe	0	0	6
	0	0	6
Extra cost of laying	0	0	2
	0	0	8
Ten per cent. profit, say	0	0	1
	0	0	9

No. 7—Extra for 6 in. junctions:—

These are about the same value as the 6 in. bends:—

	£	s.	d.
Cost of 6 in. junction	0	1	4
Less cost of pipe	0	0	8
	0	0	8
Extra labour laying	0	0	2
	0	0	10
Ten per cent. profit	0	0	1
	0	0	11

No. 2.—Extra for 4 in. syphon-traps :—

	£	s.	d.
Add extra cost of 4 in. syphon (2 ft. long) over 4 in. pipe	0	1	3
Add extra labour, say	0	0	3
	0	1	6
Add 10 per cent. profit, say	0	0	2
	0	1	8

No. 2.—Ends of rainwater-pipe made good to drain in tiles and cement :—

The end of the rainwater-pipe is usually inserted into a bend and flanged round with cement, or into a brick cess-pit and made good, as described. The cost of this is about 9d., and, say, 3d. for cement and profit. This is presuming the bend is taken or sufficient rainwater-pipe to pay for it.

No. 6.—Doulton's 11½ in. square gully-traps, with iron grating, list price 6s.; and add carriage and fixing and making good to drain :—

In pricing this item, the trade discount must be taken off the last price given. This discount is 15 per cent., delivered within a certain radius.

	£	s.	d.
Cost of gully 6s., less 15 per cent. ...	0	5	2
Cost of setting in brickwork, say ...	0	2	6
Cost of connecting to drain is little if pipes are all taken, say	0	1	0
	0	8	8
Add 10 per cent. profit	0	0	10½
	0	9	6½

No. 1 Redcliffe small-size trap; list price 6s. 6d., and add carriage and fixing and making good to drain :—

There is little variation in this item from the last. The extra cost is covered by its being smaller to set. 6d. should be added for carriage, as they would not deliver one and the distance is six miles.

No. 2.—Brick curbs, two courses high, built and rendered in cement round three sides of 12 in. square trap:—

This contains 1 ft. 10½ in. super. of half-brick in cement, and, being so small a quantity, is worth twice the value given in bricklayer for half brick wall in cement,

	£	s.	d.
Say 2 ft. super. at 1s.	0	2	0
Add rendering in cement (2 ft super.) ...	0	0	6
This price includes profit...	0	2	6

No. 1.—Make connection with sewer with proper junction and 6 in. galvanised-iron flap-trap, and pay fees:—

This is an item which will vary in almost every parish, as the fees are the main part of the cost. The drain is usually taken up to the sewer, so that there is only connecting the drain-pipe to the flap-trap—say 1s. The Vestry generally cut the eye in sewer and fix the flap-trap; they mostly insert the drain-pipes from your outer wall to the sewer, *i.e.* the 6 in. pipe taken 13 ft. deep average, and the cost will mostly exceed what you can do it for yourself, as they generally have contractors to do the work—their profit, of course, being added.

The charge for 6 in. trap and fixing is 13s. to 15s., to this add 20s. for making good road and profit—in this parish the contractor is allowed to lay his own pipes.

BILL No. 3.

BRICKLAYER. THE BRICKS TO BE HARD-BURNT STOCKS; THE MORTAR TO BE COMPOSED OF ONE-THIRD OF FRESH STONE-LIME AND TWO-THIRDS OF SAND; THE CEMENT TO BE PORTLAND.

30 rods. 76 ft. super. reduced brickwork in mortar:—

For an ordinary dwelling-house, I consider that four thousand of bricks are sufficient for a rod of reduced brickwork, as there are flues, stone, and timber not deducted. For garden walls, retaining walls, &c., four or five hundred more would be required. Most books of reference give more than four thousand. It will be best to check the number used on any one work. This, also, of course, is varied with the size of the bricks used and how the quantities are taken out. I have, in each case, assumed the work to rise four courses to the foot, which is the very best gauge that can be used.

The price of stocks delivered *on site* in Hampstead is 37s. 6d. (To obtain the cost of stocks delivered in London, first get the price of them alongside in the Thames, say 30s., add unloading, carting, and stacking within a mile, 4s. 6d., and 2s. for each mile beyond: these prices will be increased a little for city work because of the traffic.)

	£	s.	d.
4,000 stocks at 37s. 6d.	7	10	0
Cost of labour (this includes rough arches, but not cutting)	3	0	0
1½ yds. of grey stone lime at 12s. 6d. ...	0	18	9
3 yards of sand *P.C.* at 7s. 6d.	1	2	6
	12	11	3
Ten per cent. profit	1	5	2
	13	16	5

It will scarcely take 4½ yds. of mortar to a rod. The 10 per cent. profit given is very bare, as there are the *working expenses*, &c., to be provided for of 2½ to 5 per cent. Experience will, however, soon show an estimator how much he is able to get as a profit out of competition. He can price a little higher until he has confidence in these prices. His position in a list of tenders will soon show him what others ask. The price of £3 for labour is *low*.

87 ft. super. extra value only in cement to reduced brick work:—

	£	s.	d.
Cost of 27 bushels of cement at 1s. 10d.	2	9	6
Less cost of 1½ yds. lime	0	18	9
	1	10	9
Extra labour, say	0	10	0
	2	0	9
Ten per cent., say	0	4	3
	2	5	0

I have reckoned a bushel of cement, struck measure, in place of a bushel of lime heaped measure. This is barely an equivalent.

171 ft. super. Half-brick walls in cement:—

	£	s.	d.
To the price of brickwork	13	16	5
Add in cement extra	2	5	0
Including profit	16	1	5

This is equal to about 1s. 2¼d. per foot super., reduced, say, 5d. per foot super. of half-brick, and it is worth ½d. per foot super. extra labour to *half-brick* wall.

94 ft. super. Half-brick trimmer arches in cement and levelling in concrete:—

To the last item add ½d. per foot super. for extra labour to circular work in arch and 1d. for filling in the haunches level to take stone hearth, making 7d. in all. These additions include profit,

86 ft. super. Rough cutting and waste:—

This is variously estimated for at from 1d. to 3d. per foot. I have closely watched the cost of it and many similar items of labour, the cost is about 1½d. 1¾d., so that 2d. carries a fair profit. The words "and waste" are unusual to find, although, of course, there is waste; and, if there were a very large amount of cutting, it would reach a value worth noting. Waste is a thing taken into consideration in the number of bricks given for a rod of brickwork.

120 yds. super. Joints of brickwork struck fair:—

The cost of this is 3s. 6d. to 4s. per 100 ft. super., say 4½d. per yard. Where the brickwork is of a very plain character, the labour may be let at £3 per rod, to include many of these plain labours; but this would be a very low price for good work.

12 yds. super. Twice lime-whiting:—

This may be let in large quantities at 1d. to 1½d. per yard; but, as the quantity is small, say 2d. with profit.

4 ft. super. Brick flat-paving in sand:—

It is usual to bring this item into yards super. in billing; but as this is a very small quantity, it has been left in feet; unless specified to the contrary, it is usual to assume that common stocks are to be used, 100 stocks at 3s. 9d., laid flat, cover about 3 yds. super.

	£	s.	d.
Cost of bricks per yard super.	0	1	3
Cost of labour (this can be let for less)	0	0	9
Sand, say	0	0	3
	0	2	3
Profit, say	0	0	3
	0	2	6

12 yds. super. Portland cement floated surface, for tile-hearths and paving:—

This is a thin bed of cement floated *level* on top of concrete for hearths, and on other concrete taken for pavings. A bushel of cement, *P.C.* 1s. 10d., and two bushels of sand, *P.C.* 10d., will cover about 9 yds., and the labour is worth from 4d. to 6d. per yard, quantity governing the cost.

	£	s.	d.
1 bushel of cement	0	1	10
2 bushels of sand at 7s. 6d, per yard ...	0	0	10
9)	0	2	8
Say	0	0	4
Labour	0	0	6
	0	0	10
Ten per cent. profit	0	0	1
	0	0	11

39 yds. Portland cement paving, ¾ in. thick, laid in best manner, and trowelled smooth:—

This is a thicker bed (the last would require about ½ in. thick), the cement and sand being worth 9d., as, to do good work, the face should be finished with *dry* cement and then trowelled hard, the labour costing about 1s.

	£	s.	d.
Cost of cement, &c.	0	0	9
Cost of labour	0	1	0
	0	1	9
Ten per cent. profit	0	0	2
	0	1	11

9 yds. super. Tile paving *P.C.* 10s. per yard, including laying:—

To the above price add 1s. for profit, and 3d. for cement. In many cases the price for tiling is given exclusive of carriage and laying, the price quoted being "at the works." The cost of laying varies with the pattern; 6 in. tiles can be laid at 1s. 6d. per yard, and the small geometrical tiles at 3s. 6d. per yard, ordinary patterns. Carriage, of course, varies with the manufactory they are chosen to come from.

2 yds. super. Paving of 6 in. red Staffordshire tiles, and laying on and including a cement floated surface:—

There are many qualities of these tiles, varying in cost at London depot from 6s. to 10s. per 100. Unless it be specified to the contrary, it is assumed that common or fair ordinary quality are to be used.

	£	s.	d.
36 tiles at, say, 7s. per 100, delivered ...	0	2	6
Cost of laying	0	1	6
Cement bed as before	0	0	11
Cement for jointing, &c., say	0	0	3
	0	5	2
Ten per cent. profit, say	0	0	7
	0	5	9

As this is so small a quantity, a higher price must be charged, for these few tiles may have to be fetched by themselves, and 5 per cent. should be added for breakage. I should price them at 7s.

These prices given are for what are called tiles by some, but they are known in the trade as Quarries; tiles 6 in. by 6 by ½ in., best finish, will cost 7s. 6d. a yard delivered.

377 ft. super. Damp-proof course of mineral asphalte, ½ in. thick :—

The cost of this is 2s. *per yard* super. in large quantities, 2s. 3d. in small ones, *i. e.*, 3d. per foot. Add ½d. for profit.

20 ft. run rough-cut birdsmouth :—

This is of the same value as a super. foot of rough cutting.

177 ft. run rough-cut chamfer :—

This is worth about half the last item; it, of course, depends on its width, which is not here given. I presume it to be narrow, or it would be added into the rough-cutting *super.*

46 ft. run 5 in. skew-back cutting :—

This is of twice the value of rough cutting per foot super., as it has to be cut fair on the outer face, which shows. This would give 4d. per foot super. The skew-back is 4½ in., though measured as 5 in.; this gives, say, 1½d. per foot run.

21 ft. run rough-cut splay, 5 in. wide :—

This is only rough-cutting as taken in the super., which varies from the roughest over relieving arches to that cut to two lines, such as ramps, &c.; price at 5 in., at 2d. per foot super, say 1d.

30 ft. run, chase-cut or formed for pipe :—

It is not usual to price this, as it is generally left as the work is carried up. When they have really to be cut into wall, the kind of brick has to be taken into consideration, an ordinary stock being used, a 4½ in. chase, 4½ in. deep, is worth, including profit, 4d., and a 9 in. by 4½ in., 6d.

14 ft. sup. Cut and pin slate shelf :—

This is cutting a chase ready for the slate-mason, and making it good again, after him. The slate-mason should pin up the shelf; 3d. will cover profit, as the chase is narrow and runs with the beds of the bricks.

8 ft. run. Cut and pin landing :—

The size, *i.e.*, thickness, of this is not given ; but turning to the Mason, I find there only a 3 in. York landing. The mason should pin it as part of his fixing, so there's only cut chase and point, the 3 in. just filling one course cut out, Price at 3d. including profit. 1d. should be added for every inch of increased thickness of landing, those that come in courses 3 in. and 6 in. being, of course, the easiest to do.

105 ft. run. Rake out and point flashings :—

This is simply raking out the mortar-joint one inch deep, and, after the plumber has wedged the edge of the flashing in the chase, filling in the joint and pointing it, 1½d. will cover profit.

62 ft. run. Rake out and point step-flashings :—

This is the same labour performed to raking flashings, to gable parapets, &c., the slope of the roof requiring the flashings to be vandyked out to go round the edge and end of brick, and is worth about 50 per cent. more, say 2½d.

33 ft. run. Brick in cement riser :—

The size of this is not given. It may be assumed to be one brick laid flat in cement, say 9 in. to 13½ in. wide, to carry a 3 in. York step on top, or threshold, to enter door, although the word "riser" should only mean the outer casing *i.e*, 4½ in. wide ; and this is, therefore, all I should provide. 3 in. super. of half-brick wall, 1½d. and ½d. extra labour, small quantities, making 2d. It may be intended as a riser to a continuous flight of flyers formed of 2½ in. or 3 in. York treads on these risers. This latter I think the most likely, and, if correct, then the *bed* requires pointing one or both sides, and another ½d. should be provided. The description is not very explicit; but, as the item is not a heavy one, it would not materially affect the total of the estimate.

No. 35.—Ends of timber cut and pinned :—

Very few require the wall cut away for them. They are generally built in and the ends pinned up, or rather made good to after, *i.e.*, the space left round the timber filled in with brick or tile set in cement. No practical man would take these as cut, in measuring or taking off, except to old work; they are worth 4d. each, including profit; 9d. in old work.

No. 38.—Ends of steps cut and pinned:—

These are usually cut away for after the brickwork is up. In some cases sand courses are left where they are to be fixed, built in sand only. The bricks are then afterwards drawn out, the end of the step inserted and pinned up, and made good, &c. It requires great accuracy to set out where the courses are required, and more trouble than many foremen care to take, hence, they are mostly cut after. These are worth 1s. each, including profit. This is for cutting away brickwork and making good after. The pinning up step in its place is the mason's work.

No. 32.—Ends of iron bars cut and pinned :—

These must be cut away for, and made good to, after brickwork is up. The pinning is the smith's work fixing, they are worth 4d. each, including profit.

No. 26.—Sills made good to and pointed, including cutting and pinning the ends :—

There is generally one course of bricks left out under the sill-line, two courses in all, and, at the ends below angle of brick reveal three courses. After the sill is set in its place by the mason, the bricklayer fills in the course under and the bricks over and under at ends. I give these explanations of the work required that the reader who is not practical may the better understand the work that has to be done. I value this at 2s. in the following manner:—

	£	s.	d.
One hour of a bricklayer and labourer...	0	1	3
Materials, 6 or 8 bricks, and cement ...	0	0	7
	0	1	10
Ten per cent. profit	0	0	2¼
	0	2	0¼

This price is a heavy one, and objected to by many; but this includes two items often taken separately: two ends cut and pinned at 6d. each, and one sill made good to at 1s.

No. 29.—Frames bedded and pointed:—

A screed, or thin bed of lime and hair, is run in the inner reveal on the face running parallel with the face of wall, to bed the frame against, and the edge of this is pointed down after the frame is fixed. In pointing, 5 in. is generally given for 4½ in. reveals to allow for this, so there is only the bedding to allow here.

	£	s.	d.
Plasterer and labourer half an hour ...	0	0	7½
Lime and hair	0	0	2
Fixing set of rough deal screeds, including use and waste, say	0	0	4
	0	1	1½
Add profit	0	0	1½
	0	1	3

No. 7.—Large ditto:—

The increased cost of these over the ordinary sizes taken in last item has to be guessed at. They are usually priced at 50 per cent. over ordinary, say, 1s. 9d. or 1s. 10d. There does not seem to be enough frames taken "bed and point." I find many more taken to be painted in the Painter. Every check should be kept by an estimator on the quantities, that he may know how they are taken, and, if the work is obtained, it is very essential to check them in very way possible as the work progresses.

No. 16.—Flues cored and pargetted:—

This is a thin coat of lime and hair and cow-dung, with which the bricklayer lines the flue as he brings the work up; there is a large variation in the value set on this by different estimators; in settling extras and omissions, I have been offered 1s. and 1s. 6d. each for these in a building 50 ft. to 60 ft. high and parging, say, 55 ft. by 3 ft. 10 in. = 23½ yds. super., and then pay the sweep 4d. to 6d. to core a flue of this length. The lowest value I consider is 2s. 6d., including a profit they are worth 3s. each.

No 8.—Perforations through 1½ in. brick-wall and making good:—

These are for the soil, waste, and drain-pipes, &c., to be carried through, and take less than an hour of a mechanic and labourer, say, with profit and material, 1s. 6d. each.

No. 35.—Cutting and waste to relieving arches, average 3 ft. long, and one brick by one brick:—

It is not usual to price these, as they are considered to be included in the sum provided for plain labour in Item 1 in this bill; they are worth 1s. each, average size.

No. 19.—Cutting and waste to segmental arches, average 3 ft. 4 in. long, one brick deep and three-quarters wide:—

The last remark applies to this also.

No. 14.—Labour and materials setting registered stoves, including the necessary firebricks, &c:—

A bricklayer and labourer *can* set a common register stove in two hours, and the materials are worth 1s. 6d. Firebricks to backs of register stoves are nearly always found with and secured to them; but in some few "Early English" and other stoves they are provided with them, but have to be set in fireclay by the bricklayer, and often these kinds of stoves have fireclay sides, which are sent, like the backs, loose

These stoves take about six hours each of bricklayer and labourer. The filling-in behind would be of common stocks and mortar or cement, and cost, say, 2s. Some of the stoves with tile sides are sent with the tiles loose, to be fixed in by bricklayer, and then have to be allowed for.

No. 4.—Ditto stove and mantel in one piece :—

These require about one hour's more labour of bricklayer and labourer, and half-an-hour plasterer making good round them (this ought to be taken with plasterer's bill, but is not), and a very small sum, 2d., for plasterers' material—say, 7s. 6d. in all.

No. 12.—9 in. by 6 in. air-bricks and building-in :—

These, in cast iron, cost about 6d. each, and require pointing round if flush, or the reveals rendered if the air-brick is set back. The inside of opening is also generally rendered. Labour and material, setting, say, 10d., and add profit—say, 1s. 6d. in all.

No. 16.—Terra-cotta chimney-pots, 2 ft. high, of approved design and setting, and flaunching in cement :—

This is another speculative item, through the price not being given. A 2 ft. chimney-pot may be bought as low as 1s. 3d., delivered in fair quantities, up to at least four times the amount; but the presumption is that a fair, ordinary one will do.

	£	s.	d.
Say cost of chimney-pot	0	2	6
Fixing	0	1	0
Cement, say	0	0	4
	0	3	10
Ten per cent. profit, say	0	0	5
	0	4	3

FACINGS.

4803 ft. super. Extra on common brickwork for facings of hard red bricks of good, even colour, equal to sample, to be seen in architect's office; the joints raked out, and pointed in blue-ash mortar, with a neat rule joint:—

These should, of course, be inspected. Good Reading red facings cost about 63s. per 1,000, delivered on site; 100 bricks will do 14 ft. to 15 ft. super. of facings.

	£	s.	d.
Cost of red facings...	3	3	0
Deduct cost of stocks	1	17	6
	1	5	6

This gives, say, 2s. 6d. per hundred, and about 2¼d. per foot.

	£	s.	d.
Cost of facings	0	0	2¼
Cost of pointing and material	0	0	1¼
Raking out is included in price of brickwork			
	0	0	3½
Profit, say...	0	0	0½
	0	0	4

65 ft. super. Extra on common brickwork for facing with Beart's No. 1 perforated white bricks, and the joints raked out, and pointed with a neat rule joint:—

The cost of Beart's No. 1 perforated is about 5s. less than that given for red facings—*i. e.*, ½d. a foot less, and the pointing ½d. a foot less.

	£	s.	d.
Cost of bricks	0	0	1¾
Cost of pointing, &c.	0	0	0¾
	0	0	2½
Ten per cent. profit	0	0	0¼
	0	0	2¾

As the quantity is small, say 3d.

151 ft. super. Extra on common brickwork for rubbed and gauged arches in best red bricks and pointing:—

I should say these were not deducted from the red facings. They seldom are, and therefore are extra only over the cost of the facings; but to be on the safe side, provide the cost as described over the brickwork. The cost of red rubbers is 100s. per 1,000—*i. e.*, 62s. 6d. beyond the common bricks. It takes about 10 bricks to a foot super. of rubbed arch.

	£	s.	d.
Cost of *ten* rubbers ... ...at 100s.	0	1	0
Deduct cost of *seven* stocks, say... ...	0	0	3½
	0	0	8½
Cost of cutting, rubbing, and setting, if *let* piecework	0	1	0
	0	1	8½
Add ten per cent. profit...	0	0	2
	0	1	10½

I should price this at 2s., as you may not be able to let it, and then it will be difficult to get it done even at 1s. 1½d.

65 ft. run. Oversail one course of facings:—

There is the material in the projection to provide for, say ¼d., and labour, say ¾d., including profit.

47. ft. run. Circular and skewback cutting to facings:—

Both of these have to be cut fair and neat, and are worth 50 per cent. more than the other skewback taken earlier in the bill—say 2d. per foot, including profit.

70ft. run. Cutting facings to form reveal 6 in. wide:—

This is cuting 3 in. off the 9 in. brick of alternate courses, and putting a 1½ in. closer to the others, as the part of reveal against the outside of frame is pointed. This does not require so neatly doing as the cuttings round face arches that are generally set in a close putty joint—say 1d. for it.

284 ft. run. Extra on common brickwork for moulded course in white bricks, and setting out and pointing:—

The cost of moulded bricks is 27s. to 32s. per 1,000 over facings, and 52s. 6d. to 55s. over common stocks—say, two bricks per foot (it is a little less) if header and stretcher are used alternatively:—

		£	s.	d.
Cost of bricks, say ...	... at 55s.	0	0	1
Labour and cement ...	... ...	0	0	0¾
		0	0	1¾
Ten per cent. profit, say...	... ...	0	0	0¼
		0	0	2

No. 44.—Mitres:—

These are to be bought ready formed—*i. e.*, the moulding returned on the end of the brick, *P.C.*, about 1½d. extra on the headers and stretchers.

No. 6.—Extra on common brickwork for cut and rubbed weatherings 2 ft. wide, and 2 ft. girth, in red bricks:—

Take the measurement of these at 4 ft. super. and price at 6d. per foot super. extra, over the price given for arches, for extra cost of labour, including profit; these, in measuring, should be girted *both* ways, and on all parts showing that are rubbed.

BILL No. 4.

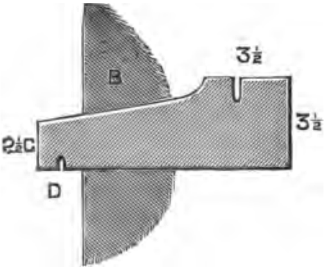
MASON.

The stone to be of the best quality of its several kinds, free from all defects, and cleaned down at the completion.

PORTLAND STONE.

26 ft. run, 11 in. by 3½ in. sunk, weathered and throated sill, grooved for iron tongue.

It is the practice with many London estimators, especially when the mason's bill is not a large one, to price the work at per foot cube, including all labours, experience teaching them a fair value at a glance at the labours taken; if they intend to go very closely in for it, they price the stone and labour in detail, where it is taken out in that form. Where there is a large mason's bill this is done. There is too little here to cube, hence it is taken run by the surveyor. As sills, heads, &c., vary so much in size, the only way to carry their value in memory is to know their average value per foot cube; in this sill there is very little stone, and a good deal of labour on so small a quantity. I value it at 10s. per foot cube, or 2s. 9d. per foot run, and give a presumed sketch of the sill—



and a detail of the labours priced *very* low and yet exceeding the above sum, which is really a *very* high one for average cube stone, even in ordinary dwellings :—

	£	s.	d.
3¼ in. cube of stone *P.C.* delivered 1s. 10d.	0	0	6
Ten per cent. waste	0	0	0¾
Hoisting and setting ... ... at 1s.	0	0	3¼
2 ft. 1½ in. half-sawing three faces, at 3½d. per foot super	0	0	7½
8 in. sunk face B rubbed ... ... at 1s.	0	0	8
8 in. rubbed work A.C.D., 4d. (Extra only over *half* sawing)	0	0	3
2 ft. groove and throat ... ... ¾d.	0	0	1½
	0	2	6½
Ten per cent. say	0	0	3
	0	2	9

I have not taken any labour to bed or joint, considering the half-sawing sufficient. The half-sawing to ends is allowed in a labour of " fair ends," &c., taken after.

6 ft. 6 in. run, 11 in. by 3½ in. sill, as last, but in one length :—

This is worth about 3d. per foot run more, because it exceeds 6 ft. in one length, and large stones cost more, unless a lot of *very small* is taken to balance the excess, and make an average of 20 ft. cube to the stone. There is also the risk of breaking long stones of small scantlings, in working, setting, and by settlement of the brickwork after.

24 ft., 11 in. by 3½ in., sill as before, but 7 ft. and 8 ft. lengths :—

Price this as last.

No. 22. Fair ends, including stopped ends to weathering :—

This is the end that projects from the brickwork, rubbed after sawing, or squared and rubbed if the sill is cut to length, by coping it, and forming hollow-stop to weathering. A mason will do the fair end and stop in an hour—say 1s. each, including profit.

26 ft. run. 18 in. by 4 in., sunk, weathered, and throated sill, grooved for iron tongue :—

This being a much larger sill, and the stone more evenly proportioned to the labour, is worth 1s. 6d. per foot cube less —*i. e.*, 8s. 6d.

No. 6. Fair ends :—

Say, half the price given for fair ends and stops—*i. e.*, 6d. each.

No. 6. Jointed-ends :—

This labour is of about the same value as the last.

No. 16. Stoppings to weatherings, 6 in. wide :—

Here we have the other half of the labour to " Fair ends," etc.—*i. e.*, 6d. each.

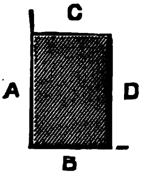
35 ft. run. 6 in. by 4 in. mullions:—

This is worth 1s. per foot run, presuming it to be a plain, square stone, jointed, and rubbed on three sides, if rebated add 4d. to 6d. according to size of rebate.

29 ft. run. 12 in. by 6 in. head:—

This is worth 6s. per foot cube if plain, if rebated add 2d. to 3d.

Hereunder I give the detail labour in this head as I presume it to be, if not rebated.



	£	s.	d.
6 in. cube stone, waste, and setting 2s. 10d.	0	1	5
3 ft. super. half-sawing A.C.B.D., at 3½d.	0	0	10½
1 ft. 6 in. super plain face A.B. rubbed (extra over half-sawing) ... at 4d.	0	0	6
	0	2	9½
Ten per cent. profit	0	0	3¼
	0	3	0¾

Some of the outside stones would work in against the brickwork, and so save half-sawing. This will cover the cost of sawing or squaring ends.

No. 6.—Cement joggle joint:—

The jointed ends of stone are rough-grooved or chased two-thirds of their length for the cement to form a key in; half-an-hour of a mason is required to each.

No. 4.—Fair ends:—

This I should think must be some error, (I am taking the quantities as they are lithographed); there could scarcely be a fair end to a head; half joint, if anything, should, I think, be taken to ends against brickwork, If this is intended, price at 6d.; this will cover the half-sawing on it I did not allow for in the detail.

No. 2.—9 in. by 6 in. by 6 in., moulded corbels:—

These cannot be priced at per foot cube; the value is labour only as one cubes to 2¼ in.; no description or sketch is given; the value is, therefore, of course speculative. It is presumed that the moulding is of a very plain character, since it needs no description. A bull-nose corbel can be worked and fixed in three hours, or a plain moulded or profile only, four to five hours, if mouldings are mitred and returned on both sides, say eight hours.

No. 12.—Slate dowels, mortises, and cement:—

The mortises are worth 3d. each, 2 in. deep—*i.e.*, 6d. for the two required, including profit, and a slate dowel 1 in. by 1 in. by 4 in., 2d.; 1 in. by 1 in. by 6 in., 3d.; cement, 1d.

YORK STONE.

84 ft. super. 2 in. rubbed hearths and jointed edges:—

Front hearths are mostly cut from sawn stone because of the length, and slightly rubbed after; where the builder has a rubbing bed, this is an inexpensive labour; they can, of course, be cut from rubbed landings.

The cost of 2 in. sawn York delivered is 9½d., to which add 10 per cent. for waste, 3d. per foot coping to size, rough tooling the edges, setting, and slightly rubbing:—

	£	s.	d.
Cost of 2 in. sawn stone	0	0	9½
Ten per cent. waste	0	0	1
Labour	0	0	3
	0	1	1½
Ten per cent. profit, say	0	0	1½
	0	1	3

17 ft. super., 2½ in., do.

Add 1½d. for extra cost of stone The constant practice of pricing these items will fix them in the mind, and no reference to cost, or these minutiæ will be required then.

11 ft. super., 2½ in. self-faced lintel and coal-shoot:—

This can be cut from the ordinary 2½ in. self-faced York paving, price 6½d. per foot delivered; it requires to be coped to size, the edges and ends tooled, and setting.

	£	s.	d.
Cost of 2½ self-faced paving	0	0	6½
Ten per cent. waste, say...	0	0	0¾
Coping, tooling, and setting	0	0	3
	0	0	10¼
Ten per cent. profit, say...	0	0	1
	0	0	11¼

9 ft. super. 3 in. self-faced landing:—

This is a very small landing, and may possibly, when the sizes are found, be selected from ordinary paving. The price of 3 in. self-faced landings, delivered, is 1s. 0½d. per foot super.

	£	s.	d.
Cost of stone	0	1	0½
Ten per cent. waste	0	0	1¼
Coping to size, and rough tooling edges and fixing	0	0	4
	0	1	5¾
Ten per cent. profit	0	0	1¾
	0	1	7½

Some surveyors take the tooled edges separately, then 2d. is enough for coping and laying.

8 ft. run. Groove for tongue:—

This is a groove a full half-inch deep on the upper side of sill, and ¼ in. to ⅜ in. wide. I gave the prime cost at ¾d. for groove and throat together. The throat is not needed so deep, and is, therefore, not worth so much. I consider this a very low price, and have known working masons ask more to do it. Separating the two, I should put throat at 1d., including profit, in small quantities, ¾d. in large; groove 1½d. in small, 1d. in large.

5 ft. run. Sunk edge to 3 in. :—

This is 3 in. super. sunk work, as given in a former detail, for Portland stone. If this is out of sawn York, used generally green from quarry, it is worth about same value; but, as it is rough, 1s. per foot super., including profit, is enough. This is 3d. for 3 in. wide per foot run.

19 ft. run, 11 by 3 sawn sill, throated, grooved for iron tongue, and set slightly sloping :—

	£	s.	d.
11 in. of 3 in. sawn York costs, at 1s. 1½d. per foot sup	0	1	0½
Teu per cent. waste, say	0	0	1½
Sawing to width, grooving, throating, and setting	0	0	6
	0	1	8
Ten per cent. profit	0	0	2
	0	1	10

No. 14.—Fair ends :—

This is squaring the projecting end, as taken to Portland sills. These are small, and a mason could do four an hour, say, with profit, 4d.

8 ft. run. 9 in. by 3 in. tooled curb :—

This can be coped from 3 in. tooled paving, and the two edges tooled.

	£	s.	d.
Cost of 9 in. of 3 in. tooled paving ...	0	0	7
Ten per cent. waste, say	0	0	0¾
Coping to size and fair tooling edges ...	0	0	6
Jointing and setting	0	0	3
Mortar, say	0	0	0½
	0	1	5¼
Ten per cent. profit	0	0	1¾
	0	1	7

No. 2.—Fair ends :—

Say 6d. including profit, for these. There is a larger surface in sight than in the last.

41 ft. run. 12 in. by 2½ in. tooled treads :—

These are coped from 2½ landings (unless very short, and then out of paving). *P.C.* 11d. per foot super, delivered.

	£	s.	d.
Cost of 2½ in. landing	0	0	11
Ten per cent. waste, say	0	0	1
Coping to size and tooling one edge ...	0	0	3
Setting	0	0	3
	0	1	6
Ten per cent. profit	0	0	1¾
	0	1	7¾

Unless specified to the contrary, I should presume one edge only tooled ; the ends of the steps are taken cut into the wall in the Bricklayer, and made good to after, and the fair ends follow farther on in this bill. The brick riser taken in Bricklayer is probably for these steps. But where the risers are stone, and taken in with the treads in a superficial dimension, a much higher price must be put, as the risers are difficult to cope, being so narrow, 4 in. to 5 in. in width only.

9 ft, run. 9 in. by 3 in. rubbed step, back-jointed :—

This can be cut either from 3 in. rubbed or 3 in. sawn stone ; 3 in. sawn York is 1s. 1½d. per foot super., delivered, as given before.

	£	s.	d.
9 in. of 3 in. sawn stone, at 1s. 1½d.	0	0	10¼
Ten per cent. waste	0	0	1
6 in. half-sawing, say, to edges	0	0	2
1 ft. of rubbing to face and edge (slight)	0	0	1½
Setting, including mortar...	0	0	3
	0	1	5¾
Ten per cent. profit	0	0	1¾
	0	1	7½

The back-joint to one edge is formed by half-sawing taken above, without further labour. I have here given sawn stone to be used, as I consider it the best. When sawn to size, there is scarcely any labour required of the mason, except setting.

7 ft. 6 in. run. 12 in. by 3 in. rubbed step, back-jointed (7 ft. 6 in. lengths) :—

This if cut from the same kind of stone, may be done at the same price, adding a little for the risk of breakage in long lengths. Sawn landings may be had 8 ft. long at same price, and, at times, even up to 10 ft. in stock.

	£	s.	d.
1 ft. run as last	0	1	7½
Add one-third additional width	0	0	6½
Allow for risk of breakage	0	0	2
Including profit	0	2	4

If there were a larger quantity of this, I would price the risk 1d. less, and the labour 1d. less, as there is comparatively less sawing and rubbing to it.

5 ft. run. 14 in. by 3 in. rubbed step :—

Add additional width at the same rate as last—*i.e.*, price at one-sixth more than last item of 1s. 7½d. and 6½d. leaving out 2d. for risk=2s. 6½d.

7 ft. 9 in. run. 14 in. by 3 in. rubbed step in one length :—

In this item add the 2d. for risk,

	£	s.	d.
1 ft. of 12 in. by 3 in. (7 ft. 6 in. lengths)	0	2	4
Add one-sixth, to make 14 in. width ...	0	0	4½
	0	2	8½

4 ft. run. 14 in. by 3 in. ditto, back-jointed :—

This is a stone that might be got out of an exceptionally large piece of rubbed paving; but it is only safe to provide, as before, for landing, and price the same as 5 ft. of 14 in. by 3 in. rubbed step.

12 ft. run. 9 in. by 6 in. ditto, back-jointed :—

This can be cut from a 6 in. sawn landing, the cost of which is 2s. 5d. per foot super., delivered.

	£	s.	d.
Cost of 9 in. of sawn stone, at 2s. 5d.	0	1	9¾
Ten per cent. waste	0	0	2¼
1 ft. of half-sawing to edges	0	0	4
1 ft. 3 in. slight rubbing ... ... at 1½d.	0	0	2
Setting	0	0	3
	0	2	9
Ten per cent. profit	0	0	3½
	0	3	0½

6 ft. 6 in. run. 14 in. by 6 in. rubbed step, in 6 ft. 6 in. lengths :—

The last item cubes to 8s. per foot cube. Price this at the same rate, 7 in. cube, at 8s.,=4s. 8d.

No. 4.—Jointed ends to steps :—

Allow an hour's work of a mason for each of these, *P.C.* 9d.

No. 3.—Fair rubbed ends to steps :—

Add 3d. to the last price for rubbing.

No. 6.—Fair tooled ends to 2½ in. treads :—

About half-an-hour of a mason, say 6d. each, including profit.

No. 22.—Notching hearths for chimney-pieces :—

These take about half-an-hour each; but, in fixing chimney-pieces, the mason has a labourer to assist him. A mason fixing has 9¾d. per hour, labourer, 6d.; this comes to 8d. *P.C.*, say 9d. with profit. Some labourers, such as are able to rub, and are accustomed to masons, get 6½d.

No. 12.—9 in. by 6 in. by 3 in. self-faced templates :—

The cost of the stone for this is 3d.; the labour, coping, and squaring them to size is about three-quarters of an hour at 9d. No allowance need be made for waste, as they are cut from odd pieces useless except for such purposes. These are mostly set by the bricklayer; but sometimes he objects, and the mason is called up. The time given will cover the setting.

No. 4.—14 in. by 9 in. by 3 in. tooled templates:—

	£	s.	d.
Cost of 10½ in. super. of 3 in. tooled paving, at ... ... 9d.	0	0	8
Add ten per cent. for waste	0	0	1
Labour, coping to size, tooling one edge and part of ends, and setting, say 1½ hours	0	1	1½
	0	1	10½
Ten per cent. profit	0	0	2¼
	0	2	0¾

No. 1.—3 in. tooled cover to coal-shoot, 2 ft. by 2 ft., with rebated perforation:—

	£	s.	d.
4 ft. super. 3 in. tooled paving, at 9d.	0	3	0
Ten per cent. waste	0	0	3½
Coping to size and tooling edges ...	0	2	3
Cutting rebated hole	0	1	6
Setting	0	0	6
	0	7	6½
Ten per cent. profit	0	0	9
	0	8	3½

I have here assumed that the edges are carefully tooled, if only required to be roughly squared, as in paving (and I should consider that sufficient, though it is best to provide enough), the cost would be 9d. less.

No. 1.—7 in. tooled and dished sink, 4 ft. by 2 ft 3 in., with rounded corner and rebated perforation for trap, and cut and pinned to wall on one side:—

The cost of 7 in. tooled York sinks worked, is about (I use the word "about" frequently, because there is the variation of cost prices) 2s. 3d. to 2s. 6d. per foot super., delivered.

	£	s.	d.
Cost of sink, 9 ft., at, say... ... 2s. 6d.	1	2	6
Add rounded corner	0	1	0
Add rebated perforation	0	1	0
4 ft. run. Cutting and pinning 7 in. (see ante)	0	2	4
Setting, very little, say	0	1	0
	1	7	10
Ten per cent. profit on all but fourth item	0	2	7
	1	10	5

No. 14.—Iron dowels and mortises :—

The value of the dowel, a piece of cast or wrought iron square bar is, say, 3d., the holes in stone and frame, 4d., and add profit; say 8d. in all.

No. 4.—Mortises and running with lead :—

These, for balusters, or other ironwork, are cut about 1 in. deep, say four an hour, *P.C.* 2½d. each; add ½lb. lead, 1½d., and profit, say 1d. more, 5d. in all.

No. 1.—Rubbed slip chimney-piece, with 7 by 1½ jambs, mantel and shelf, fixed with cramps, &c., complete, to opening 2 ft. wide :—

A chimney opening is generally 3 ft. high, so there is about 13 ft. run of 7 by 1½ in. stone in the chimney-piece, which can be priced as follows :

	£	s.	d.
7 ft. 7 in. super. 1½ in. sawn stone, rubbed (Harehill), ... 8d.	0	5	1
Ten per cent. waste	0	0	6
26 ft. run. 1½ in. edge cut and rubbed, 1½d.	0	3	3
No. 4.—Fair ends (frieze and shelf), 3d.	0	1	0
2.—Half-joints (jamb). ... 3d.	0	0	6
2.—Rounded corners on 1½,... 2d.	0	0	4
Cramps and plaster	0	0	6
Fixing, 1½ hour, mason and labourer ...	0	2	0
	0	13	2
Ten per cent. profit	0	1	4
	0	14	6

If Bath stone could be used, they could be done for 3s. or 4s. less. These can be bought ready-made of masons who do little else save make these kind of things, and they will fix if you wish them to do so.

No. 1.—Rubbed chimney-piece, with 9 in. by 2 in. jambs and mantel, all chamfered to 4 ft. 6 in. opening, for kitchen fireplace, the mantel notched for bracket and fixing, as last:—

This is cut in the same manner as the last, from sawn stone, and rubbed after.

		£	s.	d.
12 ft. super. 2 in. sawn York, rubbed,	10d.	0	10	0
Ten per cent. waste		0	1	0
36 ft. 6 in. run. 2 in. edge, as last,	2d.	0	6	1
15 ft. run. Chamfer	2d.	0	2	6
No. 2.—Mitres	3d.	0	0	6
2.—Fair ends...	4d.	0	0	8
2.—Half-joints	4d.	0	0	8
1.—Notching		0	0	6
Cramps, &c.		0	0	6
Fixing		0	2	6
		1	4	11
Ten per cent. profit		0	2	6
		1	7	5

This must, of course, be in hard stone, as there is a good deal of wear and tear for it. I have taken the opening 5 ft. high.

No. 1.—Polished Sicilian marble lavatory top, 2 ft. 9 in. by 1 ft. 6 in., with one rounded edge and small quadrant corner, and perforation for tap, and rounded perforation for basin, and including 6 in. by ¾ in. polished marble skirting on three sides, and fixing complete:—

The thickness of this is not given, but they are usually of 1 in.

	£	s.	d.
Cost of 4 ft. 1½ in. of 1 in. marble at 2s. 9d., fixed complete	0	11	4½
3 ft. (say) rounded edge, ... 6d.	0	1	6
1 quadrant corner	0	1	0
1 hole for tap	0	0	4
1 moulded ditto for basin	0	3	6
5ft. 9 in. run. 6 in. by ¾ in. skirting, 1s.6d.	0	8	8
No. 2.—Joints (angles), ... 6d.	0	1	0
2.—Fair ends and rounded corners, 1s.	0	2	0
	1	9	4½
Ten per cent. profit	0	3	0
	1	12	4½

I should price this £1. 12s. 6d., or £1 15s., as there is only one. I have made it a practice not to carry out a halfpenny; omit it, or make it a penny. Where there is only one thing of a kind a little more should be added, to allow for cartage.

BILL No. 5.

SLATER AND SLATE MASON.

18 squares, 45 ft. super. Slating of 20 in by 10 in. Whitland Abbey or other approved green slates, laid with a 2½ in. lap, and each slate secured with two zinc nails:—

The cost of green slates is £12 per thousand "long tally," *i.e.*, 1,200, delivered on site. It takes about 150 slates to cover a square, and 2lb. zinc nails. Some slaters allow more slates; 150 allows for the "*cutting*" measured in.

	£	s.	d.
Cost of 150 slates, *i.e.*, 1½ hundred long tally, at £12	1	10	0
2 lb. nails, at ... ... 5d.	0	0	10
Labour	0	3	6
	1	14	4
Ten per cent profit	0	3	5
	1	17	9

This could be let to a firm of slaters, and it would be cheaper to the builder. I give the above detail, as I think it may be useful to some. The ordinary 20 in. by 10 in. can be let at 26s. per square, slates and labour, the slates being much cheaper if best Portmadoc are used. Penrhyn or Bangor costs 2s. per square more, *i.e.*, 28s.

15 squares, 30 ft. super. Slating as before, but with 3 in. lap:—

Add 2s. for extra labour and lap of slate.

5 squares, 65 ft. super. Ditto, ditto, but in smaller graduated sizes, with 3 in. lap to eaves, slightly curved:—

If this curve is only slight, the labour to it will cost 1s. beyond the 3 in. lap, and 2s. more for cutting to graduated sizes, and 5 per cent. for waste.

	£	s.	d.
Slating 3 in. lap	1	19	9
Cutting to graduated sizes	0	2	0
Five per cent. waste	0	2	0
Extra labour fixing	0	1	0
	2	4	9

Including profit on last items, £2 5s. 3d.

34 ft. run. Close cut and mitred hip, bedded in oil cement:—

This is generally let like the above, and the charge is 4d. to 6d. per foot run. Consider the builder is going to do it, and put the cost at 4d.; add a halfpenny profit. All the prices, including cement, and exclusive of the 12 in. cutting, allowed to the hips, and measured in with the other slating.

55 ft. Extra course of slates, and cement fillet to verge:—

The cost of this is as follows:—

	£	s.	d.
10 in. of slating, as for double course of eaves, at 37s. 9d.	0	0	3¾
Cement and labour to fillet	0	0	1
	0	0	4¾
Profit on last item only	0	0	0¼
	0	0	5

No. 2.—Make good slating to pipe passing through roof:—

For the cost, say, one hour of a slater and labourer, 1s. 3d., and allow slates and nails *P.C.* 6d., say, with profit, 2s. 6d., as a little margin must be left where the exact amount of work is not specified.

Leave slating clean and perfect at completion of works:—

This is a speculative item, and the cost varies on every job; about 1s. a square in small works will be sufficient, decreasing as the work grows larger. 9d. a square is enough for this; as there are about 39 squares in it, say 30s. including profit.

23 ft. super. 1 in. sawn slate shelf and jointed edges:—

It is usual to let the slatemason's work, as it is a special one, and few builders keep slate-masons employed. It is very seldom a stonemason can work slate; many profess to, but they cannot bring it out at a fair cost; added to which, it requires machinery to do it economically—planing-machine, sanding-bed, circular saw, etc. These shelves can be fixed at a cost of 1s. 4d. to 1s. 6d., including sawn edges; the quantity being small, say 1s. 6d., and profit 2d.—1s. 8d. in all.

18 ft. run. 6 in. by ¾ in. rubbed slate skirting, fixed with screws, and plugged to wall:—

The cost of this is about 1s. per foot run, fixed complete. There is the rubbing to provide for, and holes and plugs, in this sum, say, with profit, 1s. 1½d.

No. 2.—Rounded ends:—

The cost of these is 4d. each.

No. 1.—4 in. by 2 in. slate cantilever, 21 in. long, and cut and pin in brickwork:—

The cost of the slate, cut to size and delivered, is 1s. 9d. to 2s., and the labour, cutting hole, pinning in, and making good, 9d., say 3s., including profit. If there were many of these they could be done at a lower price.

BILL No. 6.

CARPENTER.

The timber to be sound Baltic fir, well seasoned, and free from all defects.

Baltic timber is a very indefinite term, as nearly all fir timber comes out of the Baltic, from Norway, Sweden, and Russia; the baulk timber from the latter is the dearest and best; there is less waste in it, the Swedish timber being more tapering. But the cut planks, deals, battens, &c., from the other side of the Baltic are, as a generality, better than the Russian, it is not necessary to attach a price to this.

186 ft. cube. Fir in plates, lintels, and wood bricks :—

The cost of fir timber varies very much; good middling Dantzic is 60s. to 80s. per load of 50 ft. cube in the docks, say, 1s. 6d. per foot cube.

	£	s.	d.
One foot cube of timber	0	1	6
Cartage to Hampstead	0	0	2½
Sawing to sizes, say	0	0	3
Ten per cent. waste	0	0	2
Cross-cutting to lengths and fixing ...	0	0	3
	0	2	4½
Ten per cent. profit	0	0	3
	0	2	7½

If these can be cut from deals, &c., which can be had 2, 2½, 3, and 4 in. thick (and even 5 in. at times), and from 3 to 12 in. wide, a saving of 3d. per foot may be made, *i.e.*, 1d. on cost of deals, 1d. on waste, and 1d. on sawing.

52 ft. cube. Fir in ground joists:—

These can be cut from deals. They have to be nailed to sleeper plates, and are worth about 1d. per foot cube more for labour.

	£	s.	d.
Cost of deals, say	0	1	5
Five per cent. waste, say	0	0	1
Cartage	0	0	2½
Sawing	0	0	2
Labour	0	0	4
	0	2	2½
Ten per cent. profit	0	0	2¾
	0	2	5¼

23 ft. cube. Fir sawn, reversed, and bolted:—

This must be cut from baulk timber, and the cost depends on the width and depth required. The price given in item 1 of this Bill was for timber not exceeding 13 or 14 inches in width, which after being slabbed, would only hold 12 or 13 in. at the utmost. If there were a large quantity it would be wise to see the sizes, because, when there is a good market for timber, an inch or two wider will make a lot of difference in cost; and if extra length is required, width has to go with it.

	£	s.	d.
Cost of timber, say, 90s. per load ...	0	1	10
Cartage	0	0	2½
Sawing	0	0	3
Ten per cent. waste, say	0	0	2½
Cutting to length, putting together, hoisting...	0	0	6
	0	3	0
Ten per cent. profit	0	0	3½
	0	3	3½

I have presumed that this girder is 14 in. to 16 in. deep. If it were only 11 in. to 12 in. it could be formed of planks, with the same saving in cost on sawing and waste as before, and about 4d. on the timber.

552 ft. cube. Fir frames in floors :—

These can mostly be cut from deals or planks. There is little doubt where they can be used they are stronger and less likely to sag or deflect, as they are dry and case-hardened. It is very unwise, in my opinion, to use baulk timber if it can be avoided, as it will take a long time to season, and it is very seldom it gets it. Add to 2nd item in this Bill 3d. more for extra labour.

382 ft. cube. Fir framed-in roofs :—

This is worth another 3d. beyond last item—*i.e.*, 2s. 11d. per foot cube; it has mostly to be framed in its place, and there is a little more hoisting. There is more labour framing, as most of it is cut on splay at ends and notched; and again, there is a little more waste.

237 ft. cube. Fir framed in partitions :—

This is worth about the same money; the scantlings are small to cube, and there is a good deal of labour framing.

94 ft. super. Centring to trimmer arches :—

Trimmer centres are generally left in to lath to and form ceiling under. The material (rough) costs about 2d. per foot super., and labour about 3d.; add profit to these, say 5½d. or 6d. in all.

9 ft. super. Centring to apertures :—

Use the same price for this item. Centres may be re-used but it is very seldom they are, as they would cost as much to search out and convert as to cut up new material.

82 ft. run. Centring to 4½ in. soffits :—

These are generally slips of deal cut cambering on the top edge, and cost 1d. to 1½d. per foot run, and ½d. fixing; say, with profit, 2½d. per foot run.

23 ft. run. Centring to 9 in. ditto:—

Two ribs, similar to the above, and fillets nailed across. The value is about the same as a foot of the centring to apertures,.for there is as much labour to make a 9 in. as a 14 in., or even larger. The value of the 5 in. of fillet is small. If they gave the width of all the centres, I should price 9 in. at 5d. per foot run, 14 in. 6½d., 18 in. at 9d., this last item increasing 1d. more beyond the others, as it would require stronger fillets or lagging, because of the bearing.

221 ft. super. Wrot face on fir:—

This could be done by machinery, and then smoothed up by the joiner. The cost is ¾d. per foot super. Where the quantity is very large it can be priced at this sum, including profit; here the quantity is small, price at 1d.

367 ft. super. Firring out rafters to form slight curve at eaves:—

This requires on every rafter (generally 14 in. from centre to centre), a slip of fir, and of about 2½ in. in thickness, *i.e.*, the same as the rafter, which has to be guessed at; there is about the same labour and material as to turning pieces per foot run, here there is only a foot run in every 14 in. super., but the fir is thicker; say, 1½d. per foot, including profit.

20 squares, 90 ft. super. ¾ in. boarding for slates:—

The rough boards that are not good enough for joinery are used for this, and they are worth about half the value of good ¾ in. Sometimes ¾ in. rough boards are imported from the Baltic; but 1 in. and 1¼ in. are the general thicknesses sent ready-cut from there, and it would be cheaper to use 1 in. imported than to cut battens into ¾ in. purposely. The cost of 1 in., as imported, is about 9s. per square in the Docks, and it holds full the 100 ft. super., unlike the other imported boards, such as wrot flooring and matchboarding. The floor is about 5 per cent. short, as bought by the present reputed square, of 180 ft. run, 7 in. wide, 190 ft. run, 6½ in.

wide, 200 ft. run, 6 in. wide. In matchboarding there is, of course, the additional loss on the tongue. Sometimes the rough boarding is sold by the Petersburg standard of 120—12 ft. of 1½ in. by 11 in. £1 per standard is about 1s. per square.

	£	s.	d.
Cost of ¾ in. boarding, or imported 1 in.	0	9	0
Cartage to Hampstead	0	0	9
Ten per cent. waste	0	1	0
2 lb. of nails	0	0	2½
Labour	0	2	6
	0	13	5½
Ten per cent. profit	0	1	4½
	0	14	10

4 squares super. ¾ in. boarding, in narrow widths :—

This is badly described, for I expect it is laid on the curved firring taken previously. The labour of laying this is worth double the last, and it will take double the quantity of nails. There must also be an addition for sawing and waste converting into narrow widths.

	£	s.	d.
¾ in. boarding, as before	0	14	10
2½ per cent. additional waste	0	0	4½
Additional sawing	0	2	0
Extra labour, say	0	2	6
2 lb. nails extra	0	0	2½
	0	19	11
Ten per cent. profit on 5s.	0	0	6
	1	0	5

If I wanted the work I should price such an item as this at 20s. if there were many squares :—

100 ft. super. ¾ in. wrot battens to soffit of eaves, and framed backings :—

Formed by a slip of deal, say 2½ in. by 1½ in., to 3 in. by 2 in., halved and nailed to feet of rafters (in some cases only nailed), and nailed to a plate in the wall. Labour, material, and profit are worth about 4d. per foot super. for the backings (if halved) and the same amount for the battens, as it is an awkward position to fix in. Matched and beaded battens, in quantities, out of imported match-battens, are worth (including profit) about 3d. per foot super., fixed complete on ceilings, and a little less upright to walls. I give hereunder the detail of a square of ¾ in. yellow matched battens on ceilings.

	£	s.	d.
¾ in. matched batten in Docks (very best)	0	11	0
Cartage	0	0	7
Fifteen per cent. waste, and loss in measurement, say	0	1	9
Cleaning up or smoothing	0	2	1
Nails	0	0	2½
Fixing	0	6	0
	1	1	7½
Ten per cent. profit	0	2	2
	1	3	9½

This is a little less than 3d. per foot super. If this soffit is cut out of ordinary battens, as used for joinery, the cost would be more.

	£	s.	d.
¾ in. deal, including waste, *P.C.* ...	0	0	1¾
Planing	0	0	0¾
Fixing	0	0	0¾
	0	0	3¼
Ten per cent. profit, say	0	0	0½
	0	0	3¾

1 square, 25 ft. super. 1 in. boarding, traversed for zinc, and firring to falls :—

	£	s.	d.
One square of rough boarding, as given before, including profit	0	14	10
Traversing joints, *P.C.*	0	2	0
Firring to falls, a tapering slip nailed to joists, but not to a curve, as in former item, *P.C.*	0	8	4
	1	5	2
Ten per cent. profit on 10s. 4d. ...	0	1	0½
	1	6	2½

96 ft. super. 1 in. dormer cheeks, and small framed backings (measured net):—

The backings here are uprights, rough-framed only; there is more material and less labour, and there is more waste to boarding and backings.

	£	s.	d.
Backings, material, and labour, *P.C.*	0	0	8½
1 in. rough boarding, as last, *P.C.*, say	0	0	1¾
Additional waste, say 7½ per cent. ...	0	0	0½
	0	0	5¾
Ten per cent. profit, say	0	0	0¾
	0	0	6½

21 ft. super. 1 in. gutter board and bearers:—

	£	s.	d.
1 in. rough boarding as before, including labour, &c.	0	0	1¾
Additional labour and waste (gutters require to be larger at the top end than at the outlet)	0	0	0¾
Bearers, say the same as last item of backings	0	0	3½
	0	0	6
Ten per cent. profit on 4¼d.	0	0	0½
	0	0	6½

In larger quantities this item may be priced at from 5 to 10 per cent. less.

62 ft. 1½ in. Fir-framed ridge:—

I consider this of the same value as the other timber in roof. It is thin, but there is little labour in it. Price 1½ in., at one-eighth of a foot cube of fir, framed in roofs, at 2s. 11d., say 4½d.

26 ft. super. Fir-framed bracketing for lath:—

Price this the same as the backings taken for soffits

32 ft. super. Fir-framed bracketing for cove to octagonal Oriel (measured net):—

This is worth little if any more. The band-saw cuts the circular or hollow face nearly as readily as another saw—the straight; there is a little more material required. The slight extra labour for sawing to hollow face is compensated for by the length, as a cove is seldom less than 18 in. to 24 in. girth (this is more, as will be seen by the angle-brackets taken after), and there is no more labour in framing each piece than in a 12 in. to 15 in. bearer to soffit. Considering the size of this cove, price at the same as the former backings.

No. 8.—Extra for angle-brackets to ditto, averaging 3 ft. 9 in. girth:—

These should be of stouter deal, and require to be bevelled two ways on outer edge, to take the laths from the two sides that mitre on it.

	£	s.	d.
Say extra material	0	0	4
Extra labour	0	0	4
	0	0	8
Ten per cent. profit, say	0	0	1
	0	0	9

2,537 ft. super. Asphalted hair-felt, lapped and well nailed (measured net):—

The cost of this felt is 1d. per foot super., less a trade discount of 25 per cent. (it is possible to get a larger discount if bought of the actual manufacturer).

	£	s.	d.
Cost of felt, net, per 100 ft.	0	6	3
Add loss in laps, say	0	0	6
Labour laying	0	1	6
Nails	0	0	4
	0	8	7
Ten per cent. profit	0	0	10½
	0	9	5½

327 ft. run. Rough chamfer on fir :—

No size is given for this ; if not beyond 1½ in. in width on the face, it is worth ¾d. per foot run, including profit.

40 ft. run. Rough chamfer *circular* :—

This is worth about twice the straight.

40 ft. run. Deal feather-edged springer :—

A sawn fillet, spiked to the trimmer, to form skewback for arch, and worth, with profit, 1½d., or, in large quantities, 1d.

46 ft. run. Tilting fillet :—

This is similar to the last rough fillet, but smaller, and worth, in small quantities like this, ¾d. per foot run, including profit, and, in large quantities, ½d. The cost of 100 ft. run is 1s. 9d. to 2s.; 100 ft. could be fixed for 1s., and nails will cost about 1½d.

98 ft. run. Valley fillet :—

This is a wider fillet, like the "springer," and worth the same price, as I presume it is intended for the eaves in valley to tilt them.

148 ft. run. Splayed eaves fillet :—

This is the same thing that I have considered the last item was for, but used to the eaves against gutter; price at the same.

70 ft. run. 3 in. by 2 in. rough fillet :—

This is worth a little more than ground joists. It is small, and there is, therefore, more sawing. Ground joists would be 4½ in. by 2 in., to 5 in. by 2½ in. ; 3 by 2 cubes to half an inch ; this, at 2s. 5d. per foot cube, comes to 1¼d., say 1½d., which will allow for sawing.

286 ft. run. 7 in. by 1¼ in. wrot staff-beaded fascia :—

This could be got either out of 1¼ in. flooring or out of joiners' deals. I give the two costs. The prices given for deals in joiners' work include waste :—

	£	s.	d.
7 in. of 1¼ in. deal ... ...at 2¼d.	0	0	1¼
Planing 7 in. on face, and 1¼ in. on edge ... ... at ¾d.	0	0	0½
Sticking bead	0	0	0¼
Fixing, labour, and nails	0	0	0¾
	0	0	2¾
Ten per cent. profit, say...	0	0	0¼
	0	0	3

I give the fixing here rather low, presuming it is fixed on the feet of rafters, *cut level*, or on the upright part of bracketing, taken elsewhere.

	£	s.	d.
1 ft. run of 7 in. by 1¼ in. floor, at 16s. per 180 ft.	0	0	1⅛
Smoothing face and edge	0	0	0⅜
Bead, fixing, and nails, as before ...	0	0	1
	0	0	2½
Ten per cent. profit	0	0	0¼
	0	0	2¾

No. 4.—Irregular mitres to ditto.

Price mitres at a foot run, and irregular ones at two feet. This latter would therefore be, taking the fascia at 3d. per foot run, 6d.

46 ft. run. 1½ in. rounded roll for lead :—

A rough deal roll, about 2 in. high, generally rounded by machinery, and nailed to the boarding; 1½d. per foot run will include profit. The cost of the roll is seven-eighths of a penny by machinery, material and labour; ⅛d. will cover waste and nails, and one-fourth fixing.

59 ft. run. 2 in. rounded roll for lead :—

Add ¼d. for increase in size

159 ft. run. 2 in. rounded roll, bird's-mouthed on:—

Add ¼d. for rough sawn bird's-mouth on underside. The chamfers taken earlier were, no doubt, one on each side of ridge and hips, for this roll to fix on.

20 ft. run. 2 in. rounded roll bird's-mouthed on and saw-cut bent to curve:—

Add 1d. for running a number of saw-cuts across grain to allow of its bending easy, and for extra labour fixing. These additions include profit.

48 ft. run. 2½ in. by 1½ in. rounded nosing and mitres:—

Price this at 2½d., *i.e.*, 1¾d., the same value as rounded roll No. 2—¼d. for extra size, and ½d. for mitres.

413 ft. run. 2 in. by 1½ in. herring-bone strutting securely spiked:—

This is generally measured straight *across* the top of joists, and if 11 in. joists (no depth is given) would take, at 12 in. apart, about 2 ft. 8 in. in every 14 in.—*i.e.* about 2 ft. 4 in. run of rough sawn fillet to the foot run. This measurement may mean the actual running feet of fillet required, but it is very doubtful.

	£	s.	d.
2 ft. 4 in. of 2 in. by 1½ in., say at 2s. 6d. cube	0	0	1¼
Four ends cut on splay to fit joists ...	0	0	0½
Labour and nails, fixing	0	0	1¼
	0	0	3
Ten per cent. profit, say	0	0	0½
	0	0	3½

If to 9 in. joists, price at 3d., including profit. The price of 2s. 6d. per foot cube is made up of the four first items in detail of cost for fir in ground joists, the addition being made for sawing; 6d. would cover this; but then the fractional part could not be much nearer than 1¼d.

23 ft. run. Fir-framed bracketing for cove, 12 in. girth under eaves :—

This is worth a little more than that taken previously to Oriel; the girth is so much less, and labour, therefore, comparatively more. Add 1d.; ½d. if large quantities.

146 ft. run. Fir-framed bracketing for cove, 24 in. girth :—

This I should price at the same as the backings taken in the supers., say 4d. per foot super., or 8d. per foot run 24 in. girth.

No. 4.—Extra for angle-brackets to the last :—

The former angle-brackets were priced at 9d. each, including profit. This price is of course for the extra only, as given in that detail. The cove would be measured over the entire surface, even of that part supported on these angle-brackets; say 7d. for these, as they are shorter.

No. 1.—Short length of rebated drip :—

A rebated fillet fixed across the gutter at the drip, and including a groove in the gutter-board. There being only one, price it at 6d., including profit. If there were any quantity of them, they could be priced at 4d., including profit.

No. 20.—Fir-framed bridging-pieces :—

These are most probably to carry partitions whose sills run parallel with the joists, and are short pieces of quartering about 13 in. long, notched into joists at both ends, and worth about 6d. each, including profit.

PORCH GABLE.

13 ft. run. 7 in. by 3 in. fir, wrot all round, and framed in truss to gable front :—

	£	s.	d.
Fir framed in roofs, as before	0	2	11
Add extra labour in trusses and hoisting	0	0	6
Including profit	0	3	5

1¾ in. cube, at, say, 3s. 6d. per foot cube, equal 6¼d., and add to this 1 ft. 8 in. of planing at 1d., including profit, say 8d. in all.

13 ft. run. 9 in. by 3 in. fir-framed, &c., as last:—

This is the same value per foot cube as the last item, which, with the planing, comes to 4s. 6d. 9 in. by 3 in. cubes to 2¼ in. This, priced at 4s. 6d., comes to about 10½d. These are very small items; if they were large ones I should go closely into them, as neither 7 in. by 3 in. nor 9 in. by 3 in. have any sawing on them except cross-cutting. The price could be cut down to about 9d., as follows:—

	£	s.	d.
Cost of deals, say £12 per Petg. std. (this contains 165 cubic feet, and is equal to per cubic foot) say	0	1	6
Five per cent. waste	0	0	1
Cartage	0	0	2½
Labour framing and fixing	0	1	0
	0	2	9½
Ten per cent. profit, say...	0	0	3½
	0	3	1

2¼ cube at 3s. 1d. equals 7d., and to this add 2 ft. super of planing at 1d., including profit, making 9d. in all.

4 ft. run 4 in. by 4 in. Fir-framed, &c., as last:—

Price this at the same price—4s. 6d, per foot cube.

14 ft. run. 4 in. by 3 in. deal moulding and mitres:—

As this is not otherwise described, I should expect it to be of a stock pattern. The cost of joiner's work will, of course, materially depend on what machinery the builder has, and the cost of such items as these, on what architect he has to deal with, as, to have to get a pair of moulding-irons made for so small a quantity would cost about 16s. to 18s. by the time they were sharped and fixed for work, the only other alternative being (if a special pattern were insisted on) to work it by hand at an indefinite cost, workmen varying so much in the time they take over anything of this kind. It *could* be prepared in about a day of a joiner, *P.C.* 7s. 10½d., *i.e*, 6¾d. per foot run, material costing, say, 2d. per foot run, and fixing, 1d., and 3d. for mitres, and then add profit. Out of stock patterns it could be fixed complete, with profit, at 6s. per foot cube; add 3d. per foot for mitres. I have dwelt over this item, for it is of a kind that often occurs, and needs considering carefully. By the word "fixing" I mean exclusive of the labour of mitring, for which is added 3d. per foot. In quantities, the "stock" price could be reduced considerably.

12 ft. run. 4 in. by 3 in. deal moulding, one member cut into billets:—

Add to the price of last item 6d. per foot run for cutting the billet member, including profit. The cost of this is, of course, speculative. If the billets are very short the price must be increased. It is a good plan, when you intend to go very closely in for the work, to take the bills of quantities, go carefully through them, and mark everything you consider indefinite, or needing reference, and then, when inspecting the plans, &c., take the quantities with you, and write your notes on the margin as you refer.

No. 1.—Turning to 4 in. by 4 in., 2 ft. 6 in. long.

The cost of this will vary with the number of members in the work. A common 1½ in. baluster *is* turned for 1½d., and 7d. to 9d. is not out of the way for an Early English one; and so, with this, 1s. to 2s. 6d. is the cost. There is only one, so that the highest price may be taken (with this item, as with many of these small ones, they may be in larger numbers in other quantities, and a slight variation multiplied may lose a job), say 2s. 9d., including profit.

No. 2.—4 in. by 3 in. curved ribs, 2 ft. 6 in. long, framed both ends, out of 9 in. by 3 in.

	£	s.	d.
Cost of 6 in. cube of timber, say at 2s.	0	1	0
Cutting two ends and framing	0	0	9
3 ft. super. Planing cross-grain, 1½ in.	0	0	4½
5 ft. run. Circular sawing, say at ½d.	0	0	2½
	0	2	4
Ten per cent. profit	0	0	3
	0	2	7

I use the average of the prices of timber given earlier in this bill, including sawing, cartage, and waste, and have here allowed planing, as a curved rib would scarcely be used out of sight. The planing, on faces, too, would be nearly the same as to edges, as far as the cost of labour, because of the shortness of grain from its curved shape.

No. 2.—3 in. wrot and framed brackets, 2 ft. 6 in. by 3 ft.:—

This is a gallows bracket, the diagonal strut being curved two ways, and the bearer moulded.

	£	s.	d.
Labour one day of a joiner, 9½ hours at 9d.	0	7	1½
Cost of material	0	2	0
Fixing, *i.e.*, scribing back edge, cutting and pinning end, and making good	0	0	9
	0	9	10½
Ten per cent. profit, say	0	1	0
	0	10	10½

A large quantity could be done for 25 per cent. less.

BILL No. 7.

JOINER AND IRONMONGER.

The deals for joiner's work to be of the best quality, well seasoned, and free from all defects.

The joiner's work to be put in hand immediately on signing the contract, the framings put together, but not glued up.

The floor-boards to be listed clear of sap, and, if they open 1-16th of an inch, they are to be taken up and relaid.

This last paragraph must be noted in pricing the flooring; too much pains cannot be taken with floor-boards to see that they are well seasoned before laid.

FLOORS AND SKIRTINGS IN DEAL.

45 squares, 15 ft. super. 1 in. yellow batten floor, laid with straight joints and splayed headings, and mitred borders to hearths:—

This is badly taken; the borders should be separate. The price of a border has to be spread over two to six squares of floor.

	£	s.	d.
Cost of good 1 in. floor delivered, say	0	14	0
Waste 10 per cent.	0	1	5
Extra ditto for throwing out sappy boards, or listing them, say	0	1	0
Nails and border	0	0	7
Labour laying	0	3	0
	1	0	0
Ten per cent. profit	0	2	0
	1	2	0

25 ft. super. 1 in. flooring as last, and bearers in openings :—

To the last price of 2½d. cost add 2d. for bearers, including fixing, and 1d. more for extra labour in small quantities, and then add profit on the whole.

453 ft. run. 7 in. by ¾ in. square skirting and mitres, and fitted ends :—

These mitres and fitted ends ought to be taken separately; good ⅞ in. flooring, holding ¾ in., may be used for this, and only needs smoothing.

	£	s.	d.
Cost of ⅞ in. floor per ft., including waste	0	0	0¾
Smoothing	0	0	0¼
Fixing, including mitres, grounds, &c.	0	0	1½
	0	0	2½
Ten per cent. profit	0	0	0¼
	0	0	2¾

No. 4.—Rounded corners to ditto :—

The top corner of one end rounded, and the end planed; say 2d. each, including profit.

351 ft. run. 7 in. by 1 in. torus moulded skirting :—

	£	s.	d.
Cost of this, out of imported yellow skirtings	0	0	2
Ten per cent. waste	0	0	0¼
Fixing, &c. (mitres, &c., taken after) ...	0	0	1
	0	0	3¼
Ten per cent. profit, say...	0	0	0½
	0	0	3¾

If the builder has machinery, this can be got out of 7 in. by 1 in. selected flooring at ½d. per foot less, and it may be priced at per 100 ft. run, and so cut a little lower.

No. 50.—Fitted ends :—

These are described as *fitted* ends, but have often, by the terms of the specification, to be housed into the architraves, and fitted only against the chimney-pieces, so that housing must be provided for. Price at one foot of the skirting for housings, and half that price for fitted ends; or, where they are put together, add the two prices together, and divide by two. This gives three-fourths of a foot, say 3d., including profit.

No. 48.—Tongued and mitred angles:—

These, if properly done, are worth about twice the last item, *i.e.*, one and a-half feet.

323 ft. run. 9 in. by 1¼ in. moulded skirting :—

Here machinery is absolutely necessary; in fact, it is almost impossible to carry on a business of any extent without it, the competition is so keen. 9 in. skirtings are not generally kept 1¼ in. thick in stock by moulding merchants. In this case, I will show the cost of 100 ft. run preparing and fixing :—

	£	s.	d.
75 ft. super. 1¼ in. deal at 2½d. ...	0	15	7½
100 ft. run, planing and sticking moulding at one process, and cleaning up after machine	0	3	6
Add 10 per cent. waste	0	2	0
Cartage	0	0	6
Fixing, &c. (grounds and nails 2s. 2d. out of this)	0	10	6
	1	12	1½
Ten per cent. profit	0	3	2½
	1	15	4

This gives 4¼d. per foot run, including the extra cartage from builder's yard to the job. The prices given for imported goods are "delivered."

No. 48.—Fitted ends :—

Price these, as before, at three-fourths of a foot run of the skirting.

No. 36.—Tongued and mitred angles :—

Price these at the same rate as the last, *i.e.*, one and a-half feet run of the skirting; say 6d. each, including profit.

No. 4.—Irregular tongued and mitred angles :—

These are worth the value of two regular mitres of 45°, say 1s. each, including profit.

No. 2.—6 in. lengths *circular* to quadrant corners of skirting :—

Reckon *circular* three times the value of straight, and there is nearly as much labour on 6 in. as on 12 in. The quantity is so small that I should price each one at 3 ft. of straight, *i.e.*, 1s. 1d., and add 1s. for the two heading joints against the straight skirting, which are not mentioned.

SASHES AND FRAMES IN DEAL.

8 ft. super. 2 in. moulded fanlight, fixed :—

This is a small sash fixed over transom head of door-frame, and would cost about 6d. per foot super. to make, labour and material, and 1d. to fix; add 1d. for profit. The size and quantity of these govern the price. A large quantity could be done at 7d., including profit; both of these prices are presuming there are not a lot of bars of the Queen Anne or Early English style in them, which would raise their value 50 per cent. at least.

6 ft. super. 2 in. moulded skylight, hung :—

This is one of the plainest and cheapest kind of sashes or lights made. The quantity here is excessively small. I should, therefore, price it the same as the fanlight, adding 1d. for hanging. Where there is a large quantity of skylights of same pattern, they could be fixed at 5d., and hung at 6d

54 ft. super. 2 in. moulded casement:—

Without sizes it is almost impossible to give a detail of some of the joiner's work. The cost of labour would be about 3½d. per foot super. from the bench, and 1d. hanging. The material would cost (presuming there is not more than one or two bars to each casement) about 1d. per foot super.

	£	s.	d.
Cost of labour	0	0	3½
Material	0	0	1
Hanging	0	0	1
	0	0	5½
Ten per cent., say	0	0	0½
	0	0	6

This detail I have formed from the presumed contents of a casement 17 ft. 6 in. super. Smaller sizes must be priced at an increased rate.

26 ft. super. 2 in. moulded casements hung folding, with moulded stops for glass, fixed with brass screws:—

Add to the last item ½d. per foot super. for the rebates, and 1½d. for the moulded stop and fixing, and ½d. for brass screws and additional profit, 8½d. in all.

86 ft. super. 1½ in. moulded casement, hung folding, in 4 in. by 3 in. rebated and beaded frames, with 6 in. by 4 in. head, and 7 in. by 3 in. oak, double sunk, weathered, and throated sills (in No. 6):—

These, it will be seen (No. 6 frames contain 86 ft.) average only 14 ft. 4 in. super. each, and, therefore, are small frames. I consider ordinary size should average 20 ft. super., and these smaller ones to be worth 25 per cent. more than ordinary sizes.

	£	s.	d.
1½ in. casement hung (½d. less than 2 in.)	0	0	5½
4 in. by 3 in. frame, with 6 in. by 4 in. head, and oak sill	0	0	7
Add for rebates, say	0	0	0½
	0	1	1
Add 25 per cent.	0	0	3½
	0	1	4½

The price of 7d. for frame, &c., I arrived at by cubing the frame at 4s. 6d. per foot cube, and allowing extra for oak sill.

38 ft. super. 2 in. moulded casements, hung in two-light frames, the frames 4½ in. by 3 in. with 4½ in. by 2½ in. mullion, all rebated and moulded one side, and chamfered; the sill 4½ in. by 3 in. oak, double sunk, weathered, and throated (in No. 2):—

This is near enough to come under the ordinary average.

	£	s.	d.
1½ in. casements and frames (not folding)	0	1	0½
Add additional thickness (casements and frames)	0	0	1
Add for mullion and chamfering ...	0	0	1
Add for moulding, &c.	0	0	0½
	0	1	3

56 ft. super. 2 in. moulded fixed casement in three-light frame, with two transoms and two mullions, the frame 4½ in. by 3 in., the mullions and transoms 4½ in. by 2½ in., all rebated and moulded one side, and chamfered the other, and with 4½ in. by 3 in. oak, double sunk, weathered, and throated sill (in No. 1):—

This is a large frame, 56 ft. in one, and I should price it at the *ordinary* price. It is bulky to shift about in making, and there are the four pieces of extra frame; but they are covered, I consider, by its size, and the casements being fixed.

No. 1.—Extra on fixed casements for casement 1 ft. 8 in. by 2 ft. 3 in. being hung on butts:—

This is too small to price at 1d. per foot super. It would take nearly an hour to hang, *P.C.* 9d. The butts are, no doubt, taken farther on; say, therefore, 10d., with profit.

A.—98 ft. super. 2 in. deal moulded sashes, double-hung in deal cased frames, with 1¼ in. pulley-stiles, 1 in. inside and outside linings, oak, double-sunk, weathered, and throated sills, brass axle pulleys, patent lines and iron weights for sheet glass, the frames grooved all round for linings (in No. 5):—

The cost of these is as follows:—

	£	s.	d.
Material (deal)	0	0	4
Labour making	0	0	5
Brass axle pulleys	0	0	1
Oak sill, extra over deal...	0	0	1
Lines and weights	0	0	2
Hanging sashes	0	0	0¾
	0	1	1¾
Ten per cent. profit, say	0	0	1¾
	0	1	3½

I have put the ten per cent. profit a little more, to allow for cartage. In some of the items of joinery cartage would come to too small a fraction to add. 2 in. doors, for example, in fair loads, can be carted three miles, and include loading and unloading, at about one-tenth of a penny per foot super., *P.C.* Sashes and frames are cumbrous and take up much more space than doors.

36 ft. super. 2 in. deal moulded sashes and frames as last, but in 4 *small frames*:—

These are *very small*, and worth, at the least, 50 per cent. over ordinary sizes, say 2s., including profit.

107 ft. super. 2 in. deal moulded sashes and frames as before, but with lead weights for plate glass (in No. 5):—

These require larger sash-lines, larger pulleys and weights, and are worth ½d. per foot super. more than first item of 1s. 3½d. if iron weights can be used; if they require lead, 5d. per foot super. extra, each price including profit. It is only safe to provide the larger amount.

88 ft. super. 2 in. sashes and frames as A, but Venetian frame with 2 in. solid mullions, the side lights fixed, the centre light double hung, the lines passing over side lights (in No. 2) :—

This is worth the same price as A, the lesser labour, from side lights being unhung, covers the extra cost of mullions, taking lines over side lights, and the extra pulleys required to carry lines over the head to the cased linings at sides.

116 ft. super. 2 in. deal moulded sashes double hung, in Venetian frames, all as last described, but weighted for plate glass (in No. 2) :—

To the last price add the 5d. addition for weights as before.

171 ft. super. 2 in. deal moulded sashes in three-light frames with cased mullion, the sashes all double hung as before for plate glass, but the weights in mullions to have brass pulley in same, so that one weight may act for two sashes (in No. 2) :—

The extra cost of pulleys, &c., is, I consider, covered by the saving in weights.

15 ft. run. Extra on 2 in. casement and frame for rebated and rounded hanging stile and groove (as sketch) :—

The sketch shows a bead in projection on the stile or casement, and hollow and rebate worked on frame; the extra is for these labours, and not for the stile. I should price at 1d. for each of the rebates and ¾d. for each of the other labours of bead or rounded tongue, and hollow, 3½d. in all, including profit.

7 ft. run. Extra on 2 in. casement for hook rebated, meeting stile :—

This is the same as the last in value, and the dimensions might have been added together.

21 ft. run. Extra on sashes and frames, for the frame on one side having 1½ in. wrot back linings rebated to form door-frame :—

This item is not very clear, as a sash frame terminates about 2 ft. 9 in. from the floor, and a jamb lining is required to go down to it; the value of 1⅛ in. back lining, 6½ in. wide over ¾ in. by 5 in. wide, for the jamb lining must cover both the linings of frame, is 1d. per foot, and planing and rebating another 1d., say 2⅛d. per foot, including profit.

16 ft. run. Splay rebated edge to bottom rail of 1½ in. sashes :—

Say ¾d. per foot run for each of these labours, including profit, *i.e.*, 1½d. for splay edge and rebate together; the splay edge is really included in price given for sashes.

89 ft. run. Splay rebated edge to bottom rail of 2 in. sashes :—

There is so little difference between the cost of this item and the last that it is not worth adding; price at 1½d. as last.

143 ft. run. Groove in *Oak :—*

This is worth ½d. per foot run, including profit; in large quantities it can be done for less, and by machinery at ¼d. including profit, in reasonable quantities; it must be borne in mind there is the setting up the machine, *i.e.*, putting in the grooving saw, and setting fence to gauge, and carrying the oak to the machine and back to the shop to be provided for.

4 ft. run. 6 in. by 3 in. oak sunk rebated throated and moulded sill:—

Oak sills, worked and fixed complete, I value at 10s.

per foot cube, including profit, 6 in. by 3 in. cubes, to 1½ in.; this at 10s. comes to 1s. 3d., and add 2d. for moulding.

13 ft. run. 6 in. by 4½ in. oak, double sunk, weathered and throated sill to octagonal Oriel:—

Take 2¼ in. (the cube of 6 in. by 4½ in.) at 10s. per foot cube, which comes to 1s. 10½d., and add the value of mitres, which are not taken.

	£	s.	d.
2¼ in. of oak sill ... ... at 10s.	0	1	10½
No. 2 mitres and 2 joint screws (spread over 13 ft.) per foot...	0	0	4
Add for being double sunk	0	0	2
	0	2	4½

I have put these mitres at 1s. each, and the joint screws at 1s. each, including profit.

107 ft. run. 1¼ in. by ⅛ in. galvanized wrought-iron tongue and bedding in white lead:—

This can be cut from galvanized hoop-iron of the size given, and can be cut to lengths straightened and fixed, including white-lead and profit at 2d.; the prime cost of the hoop-iron ready galvanized is about 1d. per foot.

No. 64. Moulded horns to 2 in. sashes:—

These may be done with profit at 2½d., and where there are large quantities, as low as 2d.

No. 1. 2 in. casement, hung on butts in 4½ in. by 3 in. frame with *oak* sill, the frame 2 ft. by 3 ft. 6 in.:—

The size of this is very small, and there being but one, the lowest it can be put at is 50 per cent. beyond the standard or ordinary average price given earlier in this Bill.

DOORS AND FRAMINGS IN DEAL.

6 ft. super. ¾ in. ledged trap-door :—

A common ledged door is worth 6d. to 6½d. per foot super., including profit, and hanging made up as follows :—

	£	s.	d.
Labour (a joiner *can* make 2 in a day)...	0	0	2½
¾ in. matched battens, including waste...	0	0	1½
Ledges	0	0	0¾
Nails	0	0	0¼
Hanging	0	0	0¾
	0	0	5¾
Ten per cent., say	0	0	0¾
	0	0	6½

Trap-doors, being small, are worth about 25 per cent. more. An ordinary ledged door would contain about 16 ft. to 18 ft. super.

8 ft. super. 1¼ in. square-framed dwarf cupboard door hung folding :—

1¼ in. square-framed doors are worth 8d. per foot super., made up thus :—

	£	s.	d.
Material	0	0	2½
Labour	0	0	4
Hanging	0	0	0¾
	0	0	7¼
Ten per cent. profit	0	0	. 0¾
	0	0	8

This cost of material at 2½d. includes glue and glass paper ; the cost of labour is for small quantities, larger can be done at 3½d., *P.C.* ; these are in both cases for hand labour, and this cost is for ordinary 1¼ in. square-frame doors this item of 8 ft. is for *dwarf* doors, and worth about 20 per cent. more, and add 1d. for being hung folding.

5 ft. super. 1¼ in. two-panel, moulded one side, dwarf cupboard-door :—

I should add 1d. to the price of 8d. for moulding one side, making 9d., and then add 20 per cent. for small sizes, in every item where the quantity is so *very small* a little more should again be added, because there is evidently only *one*, and it requires setting out, &c., the same as if there were a dozen.

123 ft. super. 1½ in. four-panel square-framed doors :—

To the price of 1¼ in. four-panel square-framed doors add ½d. for material and labour, making 8½d., including profit; labour is very little more.

75 ft. super. 2 in. four-panel square-framed doors :—

To the last item of 8½d. add 1½d., making 10d., including profit; this addition is 1d. for material and ½d. for labour :—

17 ft. super. 2 in. four-panel square-framed doors, the upper panels rebated, beaded, and with shifting beads for glass :—

It is much better to take these beads separate, as so many sets, than to leave the estimating builder to spread their value over a superficial quantity; it is done by some surveyors. The saving, in having no panels at top, pays for rebating and beading, and add 1d. to the last price for loose beads, making 11d., including profit.

21 ft. super. 2 in. four-panel door, bead flush one side and square-framed the other :—

To the 10d. given for the 2 in. four-panel square-framed doors, add ½d. for thicker panels and 1d. for beading and return beading them, making 11½d., including profit; if bead butt add ½d. only for beading.

17 ft. super. 2 in. four-panel doors, the lower panels moulded one side and the upper panels rebated, beaded, and with shifting beads for glass:—

To the 10d. given, add 1d. as before for shifting beads, and 1d. for moulding one side; if the quantity were larger, ½d. would do for moulding one side, as only the lower panels are to be done.

69 ft. super. 2 in. three-panel doors, the lower panels moulded both sides, the upper panels with diminished stiles moulded, and with shifting mouldings for glass:—

Take the 2 in. four-panel door at 10d., the mullions and panels saved at top pay for the diminished stiles and moulding them, add 1d. for shifting mouldings for glass, it is as easy nearly to mould as to bead, and 1d. for moulding two bottom panels, making 1s. in all, including profit; these prices are all very low, but it must be remembered I am writing of "close competition."

271 ft. super. 2 in. four-panel moulded both sides door:—

To the 10d. for square framed, add 1d. each side for moulding, including profit.

37 ft. super. 2 in. framed and braced door filled in with ¾ in. matched and beaded battens:—

To the 10d. for square framed, as before, add 1½d. for extra labour to batten filling in place of panels, and slight extra cost of material in braces; the labour on last is covered by mullions omitted, as I presume this door to show two panels at the back and flush on the whole of the face of the front; the braces being fixed diagonally in the two panels.

The two prices given make 11½d., including profit.

27 ft. super. 2½ in. two panel door, the lower panel moulded one side, with panel raised, mitred, and bolection moulded, and the upper panel with diminished stiles rebated moulded, and with shifting mouldings for glass :—

A 2¼ in. two-panel door is worth 1d. per foot super. more than 2 in. four-panel for labour and materials, including profit; raised panels, 1d. per foot super. over the door for each panel, 1d. for loose mouldings as before; one panel instead of four pays for the extra labour in diminished stiles, and add ½d. per foot super. for one moulded panel, 1d. per foot super. for the one side bolection moulded (one panel only, the whole surface being measured).

	£	s.	d.
2 in. door	0	0	10
Extra on ¼ in.	0	0	1
1 raised panel	0	0	1
Loose mouldings	0	0	1
1 moulded panel	0	0	0½
1 „ bolection moulded	0	0	1
Including profit	0	1	2½

These various prices on small labours will be found useful in pricing other joiner's work that varies from the plainest kind, and each one is as low a price as I should advise anyone to use.

40 ft. super. 1½ in. moulded one side spandrel framing, measured net :—

To the price of 8½d. for 1½ in. four-panel square-framed door add 1d. for moulding one side, and add 20 per cent. for being of spandrel shape; these spandrels generally require a rough mould made to the shape on the works, to make them from, this the 20 per cent. covers; price at 11½d., including profit.

14 ft. super. 2 in. one-panel, moulded both sides framing:—

Being in *one* panel only, there is no more labour comparatively in this, though small, than in an ordinary four-panel door, and it may therefore be priced at the same rate of 10d., adding 2d. for the two moulded sides.

THICKNESSES IN DEAL.

24 ft. super. ¾ in. ledged cistern cover, and bearers, fitted to iron; part to remove:—

To the price of 6½d. already given for ¾ in. ordinary ledged doors, add 2d. for rough bearers and fitting to iron; both prices include profit. If there were any large quantity this might be done for ½d. less, as the backs, not being seen, do not require smoothing, the match battens as imported being rough planed to thickness, and near enough for such work.

20 ft. super. 1 in. shelves and bearers plugged as provision:—

	£	s.	d.
1 in. deal, *P.C.*	0	0	2
Planing two sides (one only need be smoothed)	0	0	1½
Bearers and fixing	0	0	1½
	0	0	5
Ten per cent. profit	0	0	0½
	0	0	5½

I should price this at 6d., as the quantity is small.

5 ft. super. 1 in. wrought panel:—

	£	s.	d.
1 in. deal *P.C.*	0	0	2
Planing and smoothing two sides ...	0	0	2
Cutting to size and fixing	0	0	1
	0	0	5
Ten per cent. profit	0	0	0½
	0	0	5½

Here, again, the quantity being small, I should price at 6d.

7 ft. super. 1 in. wrought panel cross-tongued:—

To the price of 6d. (quantity again being small), add 1d. for cross-tongued joint.

21 ft. super. 1 in. staff-beaded fascia:—

This may be priced as follows:—

	£	s.	d.
1 in. deal *P.C.*	0	0	2
Planing one side and edge	0	0	1
Staff bead	0	0	0½
Fixing, including nails	0	0	1
	0	0	4½
Ten per cent. profit	0	0	0½
	0	0	5

50 ft. super. 1¼ in. cross-tongued shelves and bearers plugged as provision:—

To the price of 5½d. for the 1 in. shelves, add ½d. for extra thickness, and 1d. for cross-tongue, each price including profit.

54 ft. super. 1¼ in. pilasters to dormer fronts and framed backings:—

I do not understand what backings could be required if these are planted on the fronts, unless it can be short bridging pieces framed horizontally between quarters:—

	£	s.	d.
1¼ in. deal, *P.C.*	0	0	2¼
Planing one side and edges, say... ...	0	0	1¼
Fixing, including backings and nails ...	0	0	3
	0	0	6½
Ten per cent. profit, say...	0	0	0¾
	0	0	7¼

7 ft. super. 1¼ in. cross-tongued window-board and bearers:—

	£	s.	d.
1¼ in. deal, *P.C.*...	0	0	2¼
Planing one side and rounding edge ...	0	0	1¼
Cross-tongued joint, say	0	0	1
Fixing, including bearers and nails ...	0	0	2½
	0	0	7
Ten per cent. profit	0	0	0¾
	0	0	7¾

The quantity being small, I should price at 8d.

25 ft. super. 1¼ in. cross-tongued plain window back and backings plugged:—

This I should price at the same as the last item, the labour, &c., being almost the same.

12 ft. super. 1¼ in. moulded window-back and framed backings:—

This is not described as framed, but there is little doubt it is so. To the price of the 1¼ in. square-framed door, 8d., add moulding one side, 1d., and backings 1d., and deduct 1d. for the back being rough, making 9d., including profit.

10 ft. super. 1¼ in. framed w.c. seat and riser and dovetailed bearers:—

This is of the same value as the 1¼ in. window-back, &c., less the moulding; it is rough on back, and the value of labour framing window-back covers extra cost of bearers which are dovetailed and one end let into walls, and they should be rebated to take the seat, the flap and frame then esting on the upper surface of the bearers and edge of seat.

6 ft. super. 1¼ in. clamped flap and beaded frame:—

The frame is tenoned together, and flap clamped both ends.

	£	s.	d.
1¼ in. deal, *P.C.*	0	0	2¼
Framing and clamping	0	0	5
Hanging and fixing	0	0	1½
	0	0	8¾
Ten per cent. profit, say	0	0	1
	0	0	9¾

The quantity being small, I have priced the labour 1d. above what I should have done had there been more.

11 ft. super. 1¼ in. framed and beaded cupboard fronts:—

I should price these at the same price as the cupboard doors, if to dwarf doors then at the dwarf price.

19 ft. super. 1¼ in. moulded one side enclosure to bath fixed with brass screws and cups to remove, and deal-framed backings:—

Take the 1¼ in. moulded window-back as a basis, *i.e.*, 9d., and add 1d. for extra strong bearers and framing, and ½d. for brass screws, cups, and fixing, all prices including profit.

9 ft. super. 1½ in. staff-beaded sky-light curb, tongued at angles:

	£	s.	d.
1½ in. deal, *P.C.*	0	0	2¾
Planing two sides and edge, and beading	0	0	2¼
Tongueing four angles	0	0	1½
Fixing	0	0	1½
	0	0	8
Ten per cent. profit, say	0	0	1
	0	0	9

7 ft. super. 1½ in. framed and beaded cupboard front:—

To the price of the 1¼ in. fronts add ½d. for the extra thickness, including profit.

112 ft. run. Labour to groove :—

Price this at half the price of oak groove—*i.e.*, at ¼d. per foot run, including profit.

20 ft. run. Labour on rounded edge to 1¼ in. deal :—

Price this at ½d. per foot run, including profit. In large quantities, these labours can, of course, be done much cheaper by machinery. This price of ½d. is a low one.

54 ft. run. Labour to tongued angle of 1¼ in. deal :—

This may be done by working a tongue—*i.e.*, rebating one side and grooving the other, or by two grooves and loose tongue glued in. The first method is the best, and nailing only would then be sufficient. Say, 1½d., including profit for two grooves and tongue as described.

4 ft. run. Labour to irregular tongued angle :—

Price this *irregular* labour as before at twice the price of the regular labour—*i.e.*, 3d. per foot run, including profit.

3 ft. run. Labour to tongued and staff-beaded angle to 1¼ in. deal :—

Add ½d. for the bead to the price of 1½d. for the tongued angle given before.

17 ft. run. Plugging wall for framing :—

This is driving small wood plugs every 12 in. to 24 in. (according to what is to be fixed, its length, &c.), into the joints of brickwork, to nail or screw to; and varies in value from ¼d. to 1½d. per foot, including profit. I do not consider it should be priced here, as I have included all plugging, &c., in "fixing."

1,398 ft. run. Narrow framed and splayed grounds :—

This is one of the items the specification should be referred to for, and it should be checked roughly from the plans, as some surveyors call skirting grounds, narrow framed and splayed grounds, although all the framing they get is being nailed to the plugs. I believe these to be architrave grounds only, fixed round windows and doors; but they certainly should be described as wrought, if this is the case. A narrow architrave ground would be about 3 in. wide, *i.e.*, three out of a 9 in. deal, and ¾ in. or ⅞ in. thick.

	£	s.	d.
3 in. of ¾ in. or ⅞ in. deal, per foot run...	0	0	0½
Planing face and edges and framing two stiles	0	0	1¼
Fixing	0	0	0½
	0	0	2¼
Ten per cent.	0	0	0¼
	0	0	2½

713 ft. run. Narrow framed and splayed grounds plugged :—

Add to the last item ½d. for plugging walls, including profit. Splayed, in these items, means one edge bevelled to hold down plastering, or key it.

98 ft. run. Moulded stop for glass and mitres :—

The value of this is 1d. or 1¼d. per foot run, including mitres and profit; as I have priced all the loose beads in doors, &c., which, certainly, in the description read or *inferred*, "including beads," I should not price these unless, on carefully looking through the Joiner's Bill, I could find any item in which they were described, but not priced.

5 ft. run. Bull-nose corner to 1¼ in. deal :—

A solid piece of deal, tongued and grooved, or rebated on both edges, worked to quadrant shape on outer face, and out of 3 in. by 3 in.; it is worth 4d. per ft. run fixed complete, including profit

84 ft. run. 4½ in. by 1 in. rebated linings, tongued at angles :—

	£	s.	d.
4½ in. of 1 in. deal, at 2d.	0	0	0¾
Planing one face and edges	0	0	0½
Single rebating	0	0	0½
Tonguing the angles	0	0	0¾
Fixing	0	0	0½
	0	0	3
Ten per cent., say	0	0	0½
	0	0	3½

14 ft. run. 6 in. by 1 in., rebated linings tongued at angles :—

To the last price add ¼d. for material: the variation in labour is scarcely worth noticing, and the profit included in that item is sufficient for this.

164 ft. run. 6 in. by 1 in. rebated linings splayed one edge, fixed on splay, and tongued at angles :—

To the last item add ¾d. for extra labour in making and fixing; the profit in the first of these three items still covers 10 per cent. on this one.

31 ft. run. 7 in. by 1 in. rebated linings, &c., as last :—

There is only 1 in. of deal to add; the labour varies so little it is scarcely worth noticing. *Add* ¼d. to the last item, making 4¾d. These linings could most of them be got out of good floorings at a little less cost than out of cut deals, the largest saving being in the planing. A 7 in. floor board only holds when imported 6¾ in. bare; if this width would do, there is the sawing to width and planing edges saved; the floor-board must, of course, be smoothed over, and the edges shot true; the 6 in. imported floor-board holds 5¾ in. bare; if this width after shooting would do, there is the same saving effected: for the 4½ in. linings there, is 5 in. imported flooring, holding 4¾ in.; this would allow of shooting both edges, and still leave 4½ in.

34 ft. run. 5½ in. by 1¼ in. rounded nose window-board and bearers :—

Among the supers. earlier in this Bill is an item of 1¼ in. cross-tongued window-board and bearers; price this at the same, less the cross-tongue—*i.e.*, at 6d. per foot super. *P.C.*, or say 3d. per foot run of 5½ in., and ½d. for profit, making 3½d. in all. There is about ¼d. added in these prices (for at 6d. *P.C.* 5½ in. comes to 2¾d.), as there is the same labour to rounded-edge of 5½ in. as to 10 in. or 11 in.

32 ft. run. 5½ in. by 1¼ in. window-board, &c., as last, but with a small moulding, tongued on under :—

To the last price of 3½d. add 1d. for the small moulding and tongueing on, including profit.

No. 4. Returned and mitred ends :—

This I am sure is an error in the quantities; there must be more than two sets of window-boards in the above items, and if 5½ in. wide, they would require notching at ends to return past the linings and take architrave moulding. I should provide only what is taken, and price these as returned mitred ends with moulding under at 3d. each, including profit. I have in several cases before added in anything I have considered omitted, but here the number of ends is not easily guessed at, while window openings vary from 18 in. up to 120 in. I should say the number would more likely be 24.

11 ft. run. 5 in. by 1¼ in. rebated, and staff-beaded linings, tongued at angles :—

To the 3½d. that was given for 4½ in. by 1 in. linings add as follows :—

	£	s.	d.
4½ in. by 1 in. linings	0	0	3½
Add material	0	0	0¼
Bead	0	0	0½
	0	0	4¼

The ½d. given as profit on 3d. for the 4½ in. by 1 in. linings is sufficient for this item.

18 ft. run. 7 in. by 1¼ in. rounded nose window board, with small moulding, tongued on under:—

To the price of 4½d. given for 5½ in. by 1¼ in. window-board, &c., with moulding under, add ½d. for material, &c., including profit.

25 ft. run. 2 in. by 1½ in. moulded, and twice rebated capping:—

This is an item that could be done very cheaply if there were any quantity of it, and the builder had a 4-cutter moulding machine, as the various labours could then be done at one transaction, *i.e.*, by passing once through the machine. It would require to be cleaned up by a joiner after it came from the machine. The quantity here is so small that it would not pay to set up and sharp 8 irons for it (for each cutter block to do good work and clean should have 2 irons). I should price this at 3d. per foot run, including profit, for hand labour, or where there is a saw to rebate and a single-cutter moulding machine 2½d. With the 4-cutter moulding machine this can be prepared as follows:—

	£	s.	d.
100 ft. run, 2 in. by 1½ in. = 16 ft. 8 in. super. 1½ in., at 2¾d.	0	3	10
Sawing out, say	0	0	6
Moulding and planing, &c., to 4 sides ...	0	1	2
Cleaning up, say	0	1	6
Prime cost per 100 ft. run	0	7	0

100 ft. only could not be done at this—there must be several hundred feet, and where the quantity exceeds 1,000 ft. run, it can be done for a few pence per 100 ft. less.

No. 4. Mitres:—

These could be done at the same rate as before, one foot run of the material mitred.

150 ft. run. 6 in. by 1½ in. single rebated linings tongued at angles:—

To the price of 3¾d. given for the 6 in. by 1 in. linings earlier in this bill, add ½d. for material, making 4¼d. per foot run, including profit.

152 ft. run. 6 in. by 1½ in. double rebated linings, as last:—

To the last price add ½d. for rebate, including profit; these rebated linings can be done for a little less where machinery is kept, especially where there is 150 ft. run one size; here there is 300 ft. one width. After rebating one edge the other can be turned and done by single-cutter machine, or cut out by a saw and finished by a joiner.

70 ft. run. 11 in. by 1½ in. double rebated linings, &c., as last:—

The last price supers. to 8½d., including profit; the labour is comparatively less on 11 in.; price this item at 8d. per foot super.; this is about 7¼d. as 11 in. It is undoubtedly the best way to take the jamb and other linings in running feet, as in these quantities, and not in one item of so many feet super. of 1 in., 1¼ in., or 1½ in., as in some cases the variation of labour is small, the extra material being almost all the variation; between 6 in. and 11 in. there is, of course, an addition of 5 in. of planing; the backings are longer, but the rebates are the same, and the tongueing and grooving to head requires but a very little more.

34 ft. run. 16 in. by 1½ in. double rebated linings, &c., as last:—

Take the last price of 8d. per foot super., and add 1d. per foot super. for cross-tongue joint; this comes to 1s. per foot run, 16 in. wide, including profit. Sometimes these wider linings are got out of three pieces of deal, the two pieces forming rebate, being grooved and tongued to the centre-piece; but there is no saving in this unless done by machinery. If there were a larger quantity I should price at 1d. per foot run less, because there is no more labour to rebate on this than to the 6 in. lining.

4 ft. run. 4 in. by 2½ in., twice rebated, twice beaded, and twice moulded transom :—

A fir proper door-frame is worth from 4s. 6d. to 5s. per foot cube, including profit, and transoms about 6d. per foot cube more for labour; there is so little in one that the labour, or most of it, must be done by hand. 10 parts of an inch cube at 5s. 6d. per foot cube comes, say, to 4¾d.

11 ft. run. 3 in. by 3 in. wrought and framed legs and bearers :—

I should price these at the same price as frames, per foot cube—*i.e.*, 5s.; this comes to 3¾d., including profit.

108 ft. run. 4½ in. by 3 in., proper door frame :—

Price this at the above rate of 5s. per foot cube, say 5½d., including profit.

43 ft. run. 4½ in. by 3 in., twice rebated, and four times moulded frame :—

Price this at the same price as the transom—*i.e.*, 5s. 6d. per foot cube; 1⅛ in. at 5s. 6d. comes to 6¼d., including profit.

26 ft. run. 5 in. by 3 in., twice rebated, and four times moulded frames, &c. :—

Price this at the same—*i.e.*, 5s. 6d.; 1¼ in. cube at this comes to, say, 7d., including profit.

49 ft. run. 4½ in. by 4 in., rebated and twice moulded frame :—

Price this at 5s. per foot cube, this comes to 7½d., including profit. I have not added for it, but 4 in. deal is more expensive than 3 in. I have reckoned the cost of deal at one average.

17 ft. run of 5 in. by 4 in. rebated and twice-moulded frame :—

Price this again at 5s. per cube foot; 1⅔ in. cube at this price comes, say, to 8½d., including profit.

4 ft. run. Cased head, forming part of sash frame :—

I presume this means a cased or hollow head in place of a solid one, and if so there is little, if any, extra cost worth noticing in so small a quantity, the mortising of ends is saved, and the linings let down and nailed, the soffit lining being cut short at the posts.

10 ft. run. 4½ in. by 4½ in. fir, wrought all round, chamfered and framed to octagon Oriel.

This can be priced at the same price as the door frames just dealt with, unless stop-chamfered; but as it is not stated to be stopped, I presume the chamfer is mitred at the head. Quantity will make a considerable difference in the cost of these frames. Where there is a good quantity and machinery is kept, they may be done for 10 per cent. less.

18 ft. run. 4½ in. by 4½ in. fir rebated and chamfered and beaded head to octagon Oriel.

This is of the same value of 5s. per foot cube, although it has to be cut from timber, or else have the stop planted on; this last is the best job, as cut deals are so much sounder and so much better seasoned than baulk timber; these heads would have to be mitred (irregular) being to "octagon Oriel," and this ought to have been mentioned; there is no oth way of securing the heads than the one mentioned bef of mitring and bolting—that is, halving and then pi them together with hard-wood pins, but the bolting ding better. 1⅔ in. cube at 5s. per foot, say to itrave add 4s. for the joints and bolts; thi d. each; then be extending at 17s. 6d. *all.* There is rea ulded by why this 4s. should be included by the esti r; the price

23 ft. run. 4 in. by 3 in. moulding:—

Here the quantity is small and should be priced at the same as the 4 in. by 3 in. moulding in Carpenter, which was priced to be done by hand, say 11d., including fixing and profit.

No. 12. Octagonal mitres:—

If these are to the 23 ft. of moulding just priced, there are mitres enough, and if they had been included in the description as most of the others have, who would have guessed 1 in. less than 2 ft.? I expect it is an error, and same mitres belonging elsewhere have been added on here by the abstracter. I have given previously for all irregular mitres, such as these are, 2 ft. of the material mitred, but here, as the price of the moulding is extra high through being hand-worked, I should price a regular mitre at 6 in., and those which are irregular at 1 ft.; if this moulding had been worked in quantities by machinery I should have priced it as the 5 in. by 2 in. previously at 6s. per foot cube—a mitre at one foot of this would then come to about the same as 6 in. at 11d.; if these mitres are correct in number, and belong to this 23 ft., they increase the price nearly 50 *per cent.*

33 ft. run. 6 in. by 3 in. moulding to pediments of dormers:—

Here, again, the quantity is small; where machinery is kept the saw will bevel these large mouldings down, and the planing or moulding (single cutter) machine planes them; if there were any moulding irons in stock that would suit this or the last moulding, small as the quantity is, it would pay to do them by machine, but not if irons had to be made. As I have said before, hand-labour on such things is very expensive. This item done by hand is worth 1s. 3d. per foot, including fixing and profit, presuming the moulding to extend over the whole face; I priced the last item at 11d., presuming it did, if there is any part of it square, say, 2 in., then reduce the price 1½d. per inch on the plane face only —*i.e.*, 3d. for the 2 in.

No. 6. Apex mitres.

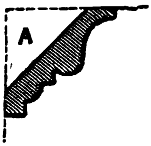
I should treat these irregular mitres in the same manner as I did the others: price them at 2 ft. run, but cube at 6s. per foot cube, as there is, of course, no more value in the labour to mitre, whether the material is prepared by hand or by machine: 6 in. by 3 in. cubes to 1½ in., and this at 6s. per foot cube comes to 9d. for a regular mitre, or 1s. 6d. for an irregular one, These prices are high.

No. 12. Splayed ends :—

These are each of half the value of an irregular mitre.

36 ft. run. 5 in. by 4 in. moulded cornice to dormer fronts :—

Many of these large cornice moulds are prepared out of 1 in. to 1¼ in. deal, as sketch, and fixed against angle backings similar to A, and this I should consider would be



done in this manner: it would require 6 in. by 1¼ in., say, of deal or pine. If this has to be done by hand to a special pattern there will only be the saving of material, and the cost of backings and fixing will come to quite as much as the saving effected; but these mouldings are stuck in pine and kept in stock by the London Moulding Mills in 2 or 3 patterns similar to the one shown, at half the price it would cost to prepare by hand, provided they may be used, and as there are many of these large mouldings here it would be worth while to refer to the details, if the work is required: where the details are not "got out," ask the question if these mouldings would do out of "stock patterns;" if they will, price this at the 6s. per foot cube fixed, including profit, cubing it at 5 in. by 4 in.; if this cannot be done, then price at the same rate cube given for the mouldings already priced.

No. 12. Mitres to ditto:—

Price these mitres at 10d. each—*i.e.*, at one foot run of 5 in. by 4 in., at 6s. per foot cube.

No. 4. Tongued angles to 12 in. by 1¼ in.

It does not state what these belong to; price them each at half an hour's labour of a carpenter and joiner, *P.C.* 4½d., with profit, 5d.

No. 18. Notched and returned and mitred ends to window-board:—

Here are some of the ends I was speaking of when pricing the window-boards, where No. 4 ends were taken; these are worth 3d. each, including profit.

No. 14. Notched and returned and mitred ends, with small moulding under:—

Price these at 4d. each, including profit; this price is rather low,

No. 1. Seat-hole cut and dished.

This will take a joiner about an hour to cut and finish, *P.C.* 9d., say, with glasspaper and profit, 1s.

No. 1. W.C. seat and riser made to remove easily:—

The seat and riser are screwed instead of nailed to the bearers, the additional labour is about 1½ hours of a carpenter and joiner, *P.C.* 1s. 1½d., and screws 1½d., say, with profit, 1s. 6d.

No. 31. 4 in. by 1 in. dovetailed backings 11 in. long:—

These, I presume, are intended for fixing the jamb linings. They are included in the prices given for those items.

No. 24. 4 in. by 1 in. dovetailed backings 16 in. long:—

The same remark applies to this item.

No. 1. Deal cradle to lavatory:—

This is a set of rough bearers to carry the top of lavatory and varying, of course, with the shape of the top; the one taken I presume to be square—*i.e.*, square angled and in a recess; this requires fillets at backs and ends, and if thought necessary—*i.e.*, if the length requires it, one also along the front. The best manner of fixing these lavatory tops, I consider, is to have a roughly-planed deal top of 1 in. or 1¼ in. deal laid on the fillets spoken of, and then the marble on top: it prevents any breakage. Sicilian or vein marble is very "short" in the grain and readily breaks. The cost and value of this item is as follows, where no deal top is used:—

	£	s.	d.
8 ft. run, rough fillet, at 1d.	0	0	8
1½ hours of a carpenter, at 9d.... ...	0	1	1½
Nails and plugs, say	0	0	1½
	0	1	11
Ten per cent. profit	0	0	2½
	0	2	1½

No. 6. 1¼ in. cross-tongued pediments to dormer fronts, 4 ft. by 1 ft. 6 in., and including framed backings :—

This is a plain triangular-shaped piece of deal cut to shape and fixed on the top of the pilasters already dealt with; on the face of its two top sloping edges the cornice priced earlier is fixed; the size given is, no doubt, the extreme one. I will treat it, though, as a square, presuming the pieces cut off its angles to be wasted; there is no doubt, that they can be cut one out of the other; two 9 in. by 1¼ in. deals glued together give the height of 1 ft. 6 in., and if 14 ft. long, the 6 could be cut from it, leaving a waste of 2 ft. by 1 ft. 6 in. on the 6, or 6 in. on each, so that each would cut out of 3 ft. 6 in. super. of deal, *net.* The reader may treat it in this way, and deduct the 2 ft. 6 in. of material and profit on it if he chooses.

	£	s.	d.
6 ft. super., 1¼ in. deal at 2¼d. ...	0	1	1½
6 ft. super., planing one side, at ¾d. ...	0	0	4½
6 ft. super., cross-tongued joint at 1d.	0	0	6
Backings or ledges to stiffen it ...	0	1	0
Cutting to shape and fixing	0	2	0
	0	5	0
Ten per cent.	0	0	6
	0	5	6

If the deduction is made it would be on the first three items, and the profit on them— *i.e.*, 11d. deduction, including profit, for 2 ft. 6 in. less on those three items, if the pediments are cut one out of the other, as I should think they could be.

No. 1. 1¼ in. dovetailed sink, 1 ft. 6 in. by 1 ft. 3 in. and 8 in. deep in clear and including bearers :—

This supers to 6 ft. 9 in., and would take a joiner 4 to 5 hours to make, say 4½ hours at 9d., this equals 6d. per foot super.

	£	s.	d.
6 ft. 9 in. super., 1¼ in. deal at 2¼d. ...	0	1	3¼
Labour	0	3	4½
Fixing, including bearers	0	1	3
	0	5	10¾
Ten per cent. profit	0	0	7¼
	0	6	6

This comes to about 1s. per foot super., including profit: larger sinks would cost less in proportion. If this were double the length and width there would be very little increase in cost of labour if the same depth were kept, and this is very good depth for even a larger sink.

No. 1. Dovetailed sink, 12 in. square, with 1¼ in. bottom, and 3 in. by 1½ in. rounded rim on two sides and 1 in. flashing boards 15 in. high on two sides :—

This would take almost the same time to make; there is a little less material and less fixing, say 5s., including profit.

No. 1. 1½ in. wrought and framed top, 4 ft. 6 in. by 1 ft. 9 in., with opening formed for sink and with sets of draining grooves worked in same :—

The labour in this is almost identical with that in the clamped flap and frame on page 74. This is ¼ in. thicker and a little larger; there is, of course, the grooves also to allow for :—

	£	s.	d.
7 ft. 10½ in. sup., at *P.C.* 8¾d.	0	5	9
Extra labour and ¼ in. of material, say 1d.	0	0	8
Forming grooves, &c., say 3 hours at 9d.	0	2	3
	0	8	8
Ten per cent. profit	0	0	11
	0	9	7

No. 1. 9 in. by 2 in. shelf, 7 ft. long, to chimneypiece with rounded corners and deal cut brackets, cut and pinned to wall, and fixing :—

	£	s.	d.
5 ft. 3 in. of 2 in. deal, at 3½d	0	1	6½
11 ft. 11 in. of planing, at ¾d.	0	0	9
Extra on two ends cross-grain and two rounded corners	0	0	4
2 brackets	0	1	6
7 ft. run, cutting and pinning edge of shelf or chasing in and nailing to plugs	0	1	2
	0	5	3½
	0	0	6½
	0	5	10

No. 1. Deal kitchen dresser, 9 ft. long and 9 ft. high, with potboard and bearers and framed legs and skirtings, fitted with three drawers, having two handles to each, and 2 in. clean deal top 1 ft. 10 in. wide and 1¼ in. cut standards, and four 1¼ in. shelves and beaded fascia, and lined at back with 3¼ in. matched and beaded linings and backings plugged to wall :—

A deal dresser I price at 10s. per foot run 7 ft. high, including profit, but not including backs or inclosures, and 6 ft. to 9 ft. long; a shorter one at a higher price *pro rata*, and on this basis I price others. I generally jot down in pencil by the side of the item how any price formed from several amounts is arrived at like this one is, as given in the following detail—this is for future reference if necessary, and will be found especially useful in the price of brickwork, timber, and those items of larger importance; the backs here are stated to be nailed to bearers "plugged to walls;" unless this dresser is to be fixed in a recess or the backings fixed flush in plastering, it will make a bad finish; the best way is to nail the ¾ in. matched battens to the edge of shelves and top, &c., and plane the edges next standards, which would be visible :—

	£	s.	d.
9 ft. of dresser 7 ft. high, at 10s. ...	4	10	0
2 ft. extra in height ; this is only height of standards, and one shelf more, say	0	10	0
81 ft. sup. ¾ in. battens, &c., at 4d. ...	1	7	0
Including profit	6	7	0

The price of 10s. per foot run for the standard dresser I gave as a basis to price from, is arrived at from keeping the cost of many of different sizes, for the purpose of getting an easily-remembered general price.

No 2. Attend plumber to cistern.

This item was included in the one of "Attend on all trades in all trades," so that no price need be put to it; it is worth 1s. 6d. to 2s., including profit.

No. 3. Attend plumber to w.c.'s :—

This I also included; the value varies, as sometimes the joists have to be trimmed for the D-traps; it is worth 2s. 6d. if there is no trimming to do, and about 5s. if there is. In both cases profit is included.

No. 3. Attend plumber to sinks :—

This is also included; the value is speculative, and it would be necessary to refer to the sinks; the small ones taken in the numbers could be priced as low as 1s., including profit; there is little, if anything, for the carpenter to do for the plumber to stone sinks. 1s. would certainly cover cost and profit on one.

No. 3. Attend plumber to lavatory :—

This is also included; the value is 1s. 6d. to 2s. 6d., including profit.

No. 1. Attend plumber to bath :—

This is also included : it is worth about 3s. 6d., including profit, to an ordinary bath for the work usually required.

STAIRCASE IN DEAL.

34 ft. super. 1¼ in. cross-tongued landing and framed bearers :—

The size of the bearers should have been given, 6 in. by 2 in. or 5 in. by 2½ in. would do for most landings, where the bearing is not too great, though they are often put in more; the value of this item is about 9d., including profit, made up as follows :—

	£	s.	d.
1¼ in. deal	0	0	2¼
Planing one side	0	0	1
Cross-tongued joint	0	0	1
6 in. by 2 in. bearer, say	0	0	2
Fixing, including trimming, nails, &c. ...	0	0	2
	0	0	8¼
Ten per cent. profit, say...	0	0	1
	0	0	9¼

This may be priced at 9½d., as there is not much of it.

180 ft. super. 1¼ in. rounded nose-treads with small moulding tongued in under and 1 in. risers tongued together and glue blocked and bracketed on, and including strong fir-framed carriages :—

Stairs are very often let to a staircase-hand at so much for all labour, fixed complete, including use of machinery where it is kept; this item is worth 1s. 3d. per foot super. including profit. I give hereunder a detail:—

	£	s.	d.
Cost of deal, 1 in. and 1¼ in., say ...	0	0	2¼
Planing	0	0	1
Small moulding and tongueing on ...	0	0	1
Glue blocking and fixing	0	0	1
Bracketing and fixing	0	0	1½
Carriages and fixing	0	0	1½
Grooving, putting together, and fixing complete	0	0	5
	0	1	1¼
Ten per cent. profit	0	0	1½
	0	1	2¾

I have put the bracketing at 1½d.—this will, I consider, pay for putting one to each carriage; if only one is put, *i.e.*, to the centre carriage, this price could, of course, be reduced.

18 ft. super. 1¼ in. rounded nose treads, with small mouldings tongued in under, and 1 in. risers tongued together, and glue blocked and bracketed on, and including strong fir-framed carriages, all as last, but in winders, measured net:—

It is to be presumed that the surveyor has added for the nosings in measuring; this leaves only the waste to allow for, which is not very great; add to the price of 1s. 2¾d. given for treads and risers in the last item, 1d. for cross tongue, and 1d. for waste; making 1s. 4¾d. in all, including profit.

12 ft. run. 1¼ in. rounded nosing tongued on, and with small moulding under:—

This may be priced at the same as the window nosing in earlier part of this bill

14 ft. super. 1½ in. moulded wall string:—

This *may* be got out of 11 in. by 1½ in. without glueing up; to all ordinary stairs it *can* be: the cost is as follows:—

	£	s.	d.
1½ in. deal	0	0	2¾
Planing	0	0	1
Moulding	0	0	1
Fixing	0	0	2
	0	0	6¾
Ten per cent. profit	0	0	0¾
	0	0	7½

It is rather a difficult matter to separate the labour of the strings, treads, &c.; the housings are taken separate afterwards, and all framings or joints at head or foot of string; the 1d. is only for staff bead or some small moulding, unless done by machinery, when the price will cover any ordinary moulding in fair quantities.

32 ft. super. 1½ in. moulded wall string plugged:—

These strings would read much clearer if taken by the foot-run, stating the width (as the jamb-linings were taken); to the last price of 7½d., add 1d. for plugging, making 8½d., including profit.

No. 3. Tongued angles:—

The item which follows this is "No. 8. short ramps." I do not see how with these there can be a tongued angle to the wall string; these three angles must, I should say, belong to skirting on the landings taken in item 1 of staircase, and if so, are worth 4d. to 6d. each including profit:—

No. 8. Extra for short ramps and heading joints:—

Reckon ramped work at twice the value of straight (there is no width of string to guide one); taking the short ramps at 24 in. each, this would be equal to 4 ft. of straight at, say, 8d. (this is about the mean average price of the string plugged and unplugged). As this is "extra only," *i.e.*, the strings have already been priced at 8d., there is only 8d. per foot to add:—

	£	s.	d.
2 ft. extra only, at 8d.	0	1	4
Heading joint	0	0	6
Including profit	0	1	10

Many short ramps do not exceed 18 in. in length; they are formed by glueing or jointing a piece on to the end of string and cutting the top edge to circular shape. As this is a moulded string I should add a little extra for working moulding circular, which is worth three times straight; the twice straight given for ramp would not cover this; make the price 2s. 2d. to 2s. 6d. each, including profit.

37. ft super. 1½ in. staff-beaded and cut outer string:—

Here, as there is no width given, it is difficult to say whether it is jointed or not. It certainly ought to be described as "cross-tongued," in order to cover the carriages—for I should think it must be jointed.

	£	s.	d.
1½ in. deal	0	0	2¾
Planing 2 sides and edges	0	0	2
Cross-tongue joint	0	0	1
Staff bead	0	0	0½
Cutting or notching (mitre allowed on treads and risers)	0	0	1
Fixing	0	0	1
	0	0	8¼
Ten per cent. profit	0	0	1
	0	0	9¼

4 ft. super. 1½ in. staff-beaded and cut outer string, *ramped*:—

Price this at 2 ft. of the straight, *i.e.*, 1s. 6½d. per foot super, including profit.

No. 1. Heading joint :—

For this a price was given a few items back; 6d. each, including profit. A joiner would take about half an hour over one; this is a prime cost of 5d. The joiner in this case is a staircase hand, getting 10d. per hour; some of the *best* get 11d. and 1s. per hour.

No. 11. Ends housed :—

These are, I presume, the ends of outer strings framed to newels and pinned. I did not allow for these in the prices of strings, the fixing being merely hauling about, offering up, etc.; these would take about the same time as last item, and may be priced at the same price.

30 ft. run. 4 in. by 4 in. framed newel :—

This is worth about 5s. per foot cube, including profit; $1\frac{1}{3}$ in. cube at 5s. = 7d., say, per foot run.

6 ft. run. 5 in. by 5 in. ditto :—

This may be priced at the same price per foot cube, $2\frac{1}{10}$ in. cube, at 5s. per foot cube = $10\frac{1}{2}$d. including profit.

No. 6. Turnings to 4 in. by 4 in. newels, 24 in. long each :—

The cost of these varies very much with the design. They are turned as low as a shilling each, and an Early English one would cost 3s. to 5s., because of the many small members used. Use a fair average price—say, 2s. each, including profit. This would allow a prime cost of 1s. 10d. each.

No. 1. Turning to 5 in. by 5 in. newel, 24 in. long :—

Add 3d. for increase of size—say, 2s. 3d. each, including profit. This addition of 3d. is low.

No. 4. Turned pendants to 4 in. by 4 in. newel :—

This reads as though the material were to be included. A pendant would not exceed 6 in. in view and 2 in. for pin. The best way is to let the newel be long enough to pass through landing ceiling, and leave enough to turn the pendant on :—

	£	s.	d.
9 in., say, of 4 in. by 4 in., at 2s. cube...	0	0	3
Turning, including pin	0	0	9
Boring hole in newel and glueing, &c. ...	0	0	3
	0	1	3
Ten per cent. profit	0	0	1½
	0	1	4½

No. 36. Ends of moulded nosed treads and risers housed :—

There is only the cutting grooves to be priced here. I included the wedging in of treads and risers in the sum set down for "fixing." The cost of cutting the two grooves is 3d. to 4d. Price them at 4d., including profit. This is a close price.

No. 3. Ends of winders ditto.

Add a penny to last price. The extra length of groove to these in wall string is almost counterbalanced by the shortness of those next newel.

No. 28.—Ends of moulded nosed treads and risers, cut and mitred to outer string, and with return moulded ends :—

The labour in this is to notch the end of tread up as far as the rounded edge and plant on a loose piece of moulding, worked the same as moulded-edge of tread, and mitre it with this, returning one end of the piece of moulding planted on—the labour in mitring of riser has been included before; price them at 9d. each, including profit; it would take a joiner about three-quarters of an hour to prepare and fix one; material would cost about ½d., this gives a prime cost of 8d.

No. 2. Ends of moulded nose treads and risers (winders) cut and mitred, &c., as last described :—

These are smaller than the last, and may be priced at 6d. each, including profit; where there is a continuous, or writhed string, instead of the newel, these ends are circular, and worth three times this.

No. 1. Quadrant end to moulded-nosed tread and riser, the riser veneered and blocked :—

This requires part of the riser to be cut or sawn down to the thickness of a full $\frac{1}{8}$ in., this thinner part being glued round a solid piece of deal cut to the required shape, the edge of tread being cut and moulded circular to the same shape. I should say from the reading of the item the step has been taken, and this is the "extra only;" the material would cost 6d. at most, and the labour beyond that already allowed on ordinary tread and riser, four or five hours of a joiner, preparing and fixing, this at 10d. per hour equals 4s. 2d., and add 6d. for material, 4s. 8d., and add 10 per cent., making 5s. 2d. in all, including profit.

No. 1. Semicircular end, 24 in. girth, to ditto, ditto:—

There is half as much more time to add for this; $7\frac{1}{2}$ hours is the least to provide. This, at 10d. per hour, comes to 6s. 3d., and add 1s. for material, and 9d. for profit, making 8s. in all.

No. 6. Moulded tops to 4 in. by 4 in. newels, with $3\frac{1}{2}$ in. diameter turned Honduras mahogany, French-polished balls with pins turned on the solid :—

This is a speculative item, and really requires some farther explanation as to what kind of moulding is to be worked or planted on, and mitred round; if no farther explanation is to be had and the quantity is small, provide as follows:—

	£	s.	d.
3½ in. mahogany ball and turning ...	0	0	9
Moulding top and fixing ball—joiner 5 hours, at 10d.	0	4	2
Polishing	0	0	4
	0	5	3
Ten per cent. profit	0	0	6½
	0	5	9½

No. 1. Moulded top to 5 in. by 5 in. newel, with 4 in. turned and French-polished mahogany ball as before:—

The difference of cost between this and the last size is not much. Price this at 6s. 6d., including profit. Both of these items are guessed at, through want of description. A reference to the drawings might show them to be worth much less, or probably more.

No, 66. 1¾ in. turned balusters, housed at both ends:—

The cost of these, again, is governed by the pattern they are required to be turned to. The following is in detail the probable value:—

	£	s.	d.
3 ft. of 2 in. by 2 in. deal	0	0	2
Sawing out and planing	0	0	2
Turning, say	0	0	3
Housing 2 ends and fixing, ½ hour at 10d.	0	0	5
	0	1	0
Ten per cent. profit, say	0	0	1½
	0	1	1½

40 ft. run. 3½ in. by 3 in. Honduras mahogany, moulded and French-polished handrail:—

The value of this depends on the moulding to be worked on it. Hereunder, I give a detail showing the cost, if worked of ordinary pattern and with the assistance of machinery:—

	£	s.	d.
10¼ in. super. of 1 in. mahogany, at 9d.	0	0	8
Sawing out and squaring up	0	0	3
Moulding by machinery, on 3 sides, joints, joint-screws, cleaning up and fixing	0	0	8
French polishing	0	0	3
	0	1	10
Ten per cent. profit	0	0	2¼
	0	2	0¼

Where the work has to be done by hand, I should price at 2s. 6d. per foot run, including profit.

8 ft. run. 3½ in. by 3 in. rail as last, but ramped:—

I should price this at twice the value of straight—say, 5s. per foot run, including profit, if prepared by hand.

No. 1. End of ditto, housed:—

I should price this at 4d., including profit. A staircase-hand or joiner could do three in an hour.

No. 11. Ends of ditto, housed as last, but on rake:—

These are worth about 50 per cent. more than the last housings.

No. 1. Heading joint and hand-rail screw, and fixing:—

This is worth 1s. to 1s. 3d., including profit. I do not think the item requires pricing, for I included the hand-rail screws and joints in rail, and one would not go far for 48 ft. run of rail if I had not; in large quantities price at 1s., in small ones at 1s. 3d. each.

HONDURAS MAHOGANY AND FRENCH POLISHING.

21 ft. super. 1 in. framed w.c. seats and risers, and deal bearers:—

The value of Honduras mahogany work is three times that of deal. The 1¼ in. deal seats and risers, earlier in this bill, were priced at 8d. per foot super., including profit. take ½d. off for difference of thickness, leaving 7½d. Three times this is 1s. 10½d. per foot super., including profit. This is a low price. I give hereunder a detail showing the cost, as I have done before:—

	£	s.	d.
1 in. mahogany, *P.C.*, including waste	0	0	9
Planing, framing, and fixing	0	0	7
Bearers and ditto ditto	0	0	2
Polishing	0	0	3½
	0	1	9½
Ten per cent. profit	0	0	2¼
	0	1	11¾

13 ft. super. 1 in. mitre clamped flaps, and beaded frames:—

The 1¼ in. deal flaps and frames were priced at 9¾d., including profit, which was a good price; subtract ½d. for lesser thickness, and multiply by three; this gives 2s. 4d. per foot super., including profit.

7 ft. run. Labour to rounded edge:—

Price the "labour only," at twice that of the deal, say 1d. per foot run, including profit.

7 ft. run. Thumb moulding, tongued on, and including fitted ends:—

This moulding is worth 5d., including profit, *i.e.*, for working and fixing moulding, including material, 3d.

working four fair ends, and fitting two, 1d., and polishing 1d.; the ends that show (No. 4) when flap is lifted required to be planed fair and polished.

28 ft. run. 7 in. by ¾ in., beaded skirting:—

The following is the value of this in detail, which comes to about the same as multiplying a deal one at 3d. by 3:—

	£	s.	d.
7 in. of ¾ in. mahogany	0	0	3½
Cutting out and planing...	0	0	1¼
Fixing	0	0	1½
Polishing	0	0	2
	0	0	8¼
Ten per cent. profit	0	0	1
	0	0	9¼

No. 6. Tongued and mitred angles:—

Price these at 4d. each, including profit.

No. 6. Rounded ends:—

The labour in these is not much. A joiner should do 6 in an hour; this is a cost of 1½d. each—say, 2d. each, including profit. Workmen vary so much in the quantity as well as the quality of the work they do, that prime cost is a very difficult task to maintain. One workman will consider it an impossibility (and I believe it is to him) to carry out what another has done with ease, both as to time and finish.

No. 2. Seat holes, cut and dished:—

This should be priced at twice the price of deal.

No. 2. Beaded holes for handle:—

The last price (which is a good one) will be sufficient for this; the hole being much smaller, and only square-edged, will pay for turned bead, which is inserted and glued in after the hole is cut.

No. 2. W.C. seats and risers, made to remove easily:—

The simplest method of doing this, when the riser is plain, is to screw the riser to the bearers, and the flap frame and seat, with brass screws and cups, and where the riser is framed, the stiles can be screwed, and the panel made to slip up and down in grooves; price at twice the item in deal if framed; once and half if only plain riser; the plain riser screwed is priced at 1s. 6d. in deal.

No. 1. 1¼ in. Honduras mahogany framed top to bath, 7 ft. 3 in. by 3 ft., with one moulded edge and small quadrant corner and shaped perforation, and deal-framed bearers, and French-polishing:—

The labour in framing and fixing this is about equal in value to the 1 in. flaps and frames already priced: there is the ¼ in. of mahogany (for which add 3d. per foot) and the moulded edge; the net contents of this bath-top, deducting the waste in hole, is 12 ft. 6 in. (about); price this at 2s. 6d. per foot super., and add 6s. 6d. for moulded edges, including the circular corners and external one. There is no skirting mentioned.

	£	s.	d.
12 ft. 6 in. super. of 1¼ in. top, at 2s. 6d.	1	10	0
Moulding edges (inside and out) ...	0	6	6
Bearers to top (they are taken to framing elsewhere)	0	3	0
Including profit	1	19	6

If this were cut out of a solid piece of wide mahogany, or, say, glued up with one joint, the value would be:—

	£	s.	d.
21 ft. 9 in. 1¼ in. mahogany, at, say, 1s.	1	1	9
Planing ... ... at 2d.	0	3	7½
Cross-tongueing, at 2d.	0	3	7½
Cutting hole and moulding inside and out	0	6	0
Fixing and bearers	0	6	0
French-polishing (say 14 ft., with edges) at 3½d.	0	4	1
	2	5	1
Ten per cent. profit	0	4	6
	2	9	7

In this last detail I have given no credit for the 1¼ in. mahogany cut out for hole, which would measure about 5 ft. 4 in. by 1 ft. 6 in. average: this is 8 ft. super., at 1s., but it is an awkward shaped piece.

IRONMONGERY OF THE BEST AND STRONGEST DESCRIPTION, INCLUDING SCREWS AND FIXING. ALL DOOR FURNITURE TO HAVE SPINDLES OF AN APPROVED PATENT.

No. 4 pairs. 2½ in. wrought-iron butts:—

The cost of these is 4d. per pair, to which add screws 1d. (the fixing is taken with the doors), and then add profit—say 1d., the quantity being small—making 6d. per pair.

No. 14 pairs. 3 in. wrought-iron butts:—

These cost 5½d. per pair, to which add 1d. for screws, and then add profit.

No. 9 pairs. 3½ in. wrought-iron butts:—

These cost 7d. per pair, add 1¼d. for screws, and then add profit.

No. 23½ pairs. 4 in. wrought-iron butts:—

The cost of these is 9½d. per pair; add 1½d. for screws, and say 1½d. for profit—1s. 0½d. in all. All these prices for wrought butts are for "medium quality."

No. 10 pairs. 3 in. brass butts:—

The width of brass butts varies. They are made 3 in. long, and in all lengths, "light," "medium," and "strong," and of widths varying in 3 in. from ⅞ in. up to 3 or more inches; 1¼ in. wide is the size generally used for ordinary work, and they cost about 9s. per dozen pairs bought of the *makers.* Ironmongery is very dear if purchased of local ironmongers—*i.e.*, after changing hands two or three times.

	£	s.	d.
3 in. by 1¼ in. medium butts, say ...	0	0	9
Iron screws	0	0	1¼
	0	0	10¼
Ten per cent. profit	0	0	1
	0	0	11¼

No. 2. Pairs of 4 in. brass butts:—

These, of course, vary in size—*i.e.*, width, and price; a very good 4 in. butt may be bought for about 2s. 3d. per pair; add 1½d. for screws to this, and add 3d. for profit, making 2s. 7½d. in all.

No. 2 pairs. 2½ in. ditto., and fixing in mahogany:—

2½ in. brass butts cost 6d. per pair. Add 1d. for screws, ¾d. for profit, 7¾d. in all, or, say, 8d.—it is not usual in these small items to use farthings to price out from, or to extend farthings in the money columns.

No. 3 pairs. 4 in. brass rising butts:—

Here, again, the width governs the price: rising butts are always made extra strong and heavy, whether in brass or iron. A good pair will cost 7s. 6d. (medium quality).

	£	s.	d.
Cost of butts	0	7	6
Screws	0	0	2
Extra fixing	0	0	6
	0	8	2
Ten per cent. profit, say...	0	0	10
	0	9	0

In this, as in all cases, I have provided only iron screws. If brass are specified, the extra must be added; a screw list (say Nettlefold and Chamberlain's) will give the difference —there is a large trade discount off the list. Butts take from 12 1¼ in. screws to 2½ in. to 20 2 in. for strong wide butts, per pair.

1 pair. 15 in. cross garnet hinges:—

There are many prices for garnets; they vary from light to strong, in strength. Fair medium garnets, 15 in. long, will cost 8d. per pair; add 1½d. for screws (the fixing has been provided for in the Joiner's bill) and 1d. for profit, 10½d. in all.

No. 1. 4 in. neck bolt:—

The cost of this is 3d.

	£	s.	d.
Cost of bolt	0	0	3
Screws	0	0	0½
Fixing	0	0	2
	0	0	5½
Ten per cent. profit, say	0	0	0½
	0	0	6

Where there is but one, or a very few, price a little higher.

No. 7. 4 in. barrel bolts:—

The cost and value is as follows:—

	£	s.	d.
Cost of bolt	0	0	3
Screws	0	0	0½
Fixing	0	0	3
	0	0	6½
Ten per cent. profit	0	0	0¾
	0	0	7¼

No. 1. 8 in. barrel bolt:—

	£	s.	d.
Cost of bolt	0	0	6
Screws	0	0	1
Fixing	0	0	3
	0	0	10
Ten per cent. profit	0	0	1
	0	0	11

No. 1. 12 in. barrel bolt:—

	£	s.	d.
Cost of bolt	0	0	9
Screws	0	0	1½
Fixing	0	0	3½
	0	1	2
Ten per cent. profit	0	0	1½
	0	1	3½

No. 1. 8 in. brass barrel bolt:—

	£	s.	d.
Cost of bolt (best)	0	3	0
Screws	0	0	1
Fixing	0	0	3
	0	3	4
Ten per cent. profit	0	0	4
	0	3	8

The price of 3s. for this bolt is the cost of the best. Common are 1s. 6d. to 2s. each.

No. 1. 18 in. brass barrel bolt:—

	£	s.	d.
Cost of bolt	0	6	0
Screws	0	0	3
Fixing	0	0	6
	0	6	9
Ten per cent. profit	0	0	8
	0	7	5

I have provided 6d. for fixing this bolt, but they ought to be fixed for 4d. in any quantity. In each of these small items add a little to the bare price given, and in no case, have I provided *brass* screws. It is usual to say, "including brass screws," or "gilt-headed screws," when they have been specified.

No. 1. 3 in. cupboard lock:—

Locks vary more than any other kind of ironmongery, and the quality should be very clearly stated; a cupboard lock can be bought at 2½d., and a reference to the list of any patent-lock maker will show how high in price the best are; here, having no farther description, a japanned cupboard lock is intended; this would cost 5d.

	£	s.	d.
Cost of lock	0	0	5
Screws, brass escutcheon and pins ...	0	0	2
Fixing	0	0	9
	0	1	4
Ten per cent. profit	0	0	1¾
	0	1	5¾

Say 1s. 6d, for this, there being only one; the fixing could be done for 6d. in quantities, but there is a certain amount of running about to provide for, where there is only a few.

No. 1. 4 in. cupboard lock:—

To the last price add 3d. for extra cost of lock and profit: the labour and other items vary but little; this gives 1s. 9d.—including profit.

No. 7. 6 in. rim locks and brass furniture:—

This kind of lock varies as much as a cupboard lock; they are made as cheap as 10½d. each, including brass furniture with common spindle, escutcheon, roses, and screws, and with box staple complete. There is hardly a bound to the other extreme; they are made in best levers at very high prices. A good ordinary rim lock may be purchased with patent spindle as specified at 2s. 6d.

	£	s.	d.
Cost of lock	0	2	6
Fixing	0	0	9
2 screws to face-plate not provided and brass pins	0	0	1
	0	3	4
Ten per cent. profit	0	0	4
	0	3	8

The prices given for fixing locks are fair and reasonable ones, and while they may be let for less, they will cost more, if not looked after.

No. 1. 7 in. drawback lock:—

The cost of a fair ordinary lock of this description is 2s. 6d., the handle is secured to lock on one side, and there is, therefore, no patent spindle to provide for; the screws, escutcheon, and staple are included in the price.

	£	s.	d.
Cost of lock	0	2	6
Screws for face-plate and pins for escutcheon	0	0	1
Fixing	0	1	0
	0	3	7
Ten per cent. profit	0	0	4½
	0	3	11½

No. 15. 6 in. two-bolt mortise locks:—

These locks, which are of a superior kind, do not descend so low in the scale of prices, 1s. 6d. being about the lowest, and this not including furniture, the cost of which is—common brass as to rim locks, 6d. a set; black or white china knobs 11d., in each case only common spindles are included; "two-bolt mortise" is one bolt to latch and turn with the handles, and the other to lock. The furniture is not to be included with these locks—it is taken further on. The cost of a good, fair mortise lock is 3s.

	£	s.	d.
Cost of lock	0	3	0
Fixing	0	2	0
Screws for face-plate and striking-plates	0	0	0½
	0	5	0½
Ten per cent. profit	0	0	6
	0	5	6½

No. 7. 7 in. two-bolt mortise locks:—

The additional value of this is the extra cost of the lock, 6d., and profit on this amount. This price of 6d. is a close one.

No. 1. Thumb-latch:—

A very fair one may be purchased for 6d.

	£	s.	d.
Cost of latch	0	0	6
Screws, say	0	0	1
Fixing	0	0	9
	0	1	4
Ten per cent. profit	0	0	1½
	0	1	5½

This price of fixing, 9d., is a good one, but they are seldom fixed for less unless "let" to the men.

No. 1. 6 in. mortise locking latch, with ebony knob on one side:—

In these better class of things there is not half the variation there is in the ordinary rim and mortise locks: there is really nothing cheap kept. There is not a very great demand for these and the merchants have their price, and there is not the competition among the makers of this class of goods. A latch of the above description will cost 4s. 6d., with ebony knob complete.

	£	s.	d.
Cost of latch	0	4	6
Fixing, say	0	2	6
	0	7	0
Ten per cent. profit	0	0	8½
	0	7	8½

No. 1. 4 in. five-lever superior dead-lock for wine-cellar door:—

The wards and bolt of this lock should be of brass; a good lock of this description may be bought by the dozen for 10s. each. These small quantities are bad to form a basis on, and the question of quantity always governs the price (the price given would include two keys).

	£	s.	d.
Cost of lock and screws, &c.	0	10	0
Fixing	0	0	9
	0	10	9
Ten per cent. profit	0	1	1
	0	11	10

No. 5. Sets of brass furniture for mortise locks:—

Brass furniture, as I mentioned before, can be bought with common spindles as low as 6d. per set. A good set costs, with patent spindle, 2s.

	£	s.	d.
Cost of furniture...	0	2	0
Fixing	0	0	3
	0	2	3
Ten per cent. profit	0	0	3
	0	2	6

No. 10. Sets of white-and-gold china furniture for mortise locks:—

The cost of these is 6d. per set in excess of the last for the best—say, 3s. 2d., including profit.

No. 7. Sets of furniture, *P.C.* 7s. per set, for mortise locks:—

It is a fairer way to the builder to give a provisional price; there can be no question of quality afterwards. Some architects put their work up to competition, which is always of the keenest, and sometimes publicly advertised, and still expect everything to be of the best.

	£	s.	d.
Provided amount...	0	7	0
Fixing, say	0	0	4
	0	7	4
Ten per cent. profit	0	0	9
	0	8	1

No. 14. Brass spring roller sash-fastenings:—

The cost of a good ordinary sash-fastening is 8d.

	£	s.	d.
Fastening, *P.C.*	0	0	8
Fixing	0	0	3
Screws	0	0	0½
	0	0	11½
Ten per cent. profit	0	0	1¼
	0	1	0¾

No. 10. Strong brass secure sash-fastenings, of improved patent:—

Here again is an indefinite description. If the work is wanted all prices must be kept "close," and yet a proper provision made for such things as this; a good patent secure fastener (there are a score selling by this name) may be bought for 1s. 2d.

	£	s.	d.
Cost of fastener	0	1	2
Screws	0	0	0½
Fixing	0	0	3
	0	1	5½
Ten per cent. profit	0	0	1¾
	0	1	7¼

No. 16. Brass casement fasteners:—

The same remark applies here, as to the want of a *P.C.* or provisional price; the cost of a fair ordinary one is 1s. 3d. If the casements are light a good strong plain fastening may be bought for 10d. that will suit.

	£	s.	d.
Cost of fastening	0	1	3
Screws	0	0	0½
Fixing	0	0	4
	0	1	7½
Ten per cent. profit	0	0	2
	0	1	9½

No. 11. Brass casement stay-bars :—

A good fair casement-stay may be bought for 1s. 6d.

	£	s.	d.
Cost of stay-bar	0	1	6
Screws	0	0	0½
Fixing	0	0	4
	0	1	10½
Ten per cent. profit	0	0	2½
	0	2	1

No. 26. Sash-lifts, *P.C.* 10d. each :—

	£	s.	d.
Cost of lift	0	0	10
Screws	0	0	0½
Fixing	0	0	4
	0	1	2½
Ten per cent. profit	0	0	1½
	0	1	4

The price of 4d., fixing is for small sunk lifts, the plates not let in; add 2d. if they are to be let in flush; if the lift is only a hook one, or a jointed hook one, they can be fixed for 2d. each.

No. 13. Brass flush-plate eyes, for top sashes :—

These cost about 4d. each; add 4d. fixing and screws, and 1d. for profit, making 9d. in all.

No. 2. Brass knob cupboard turns :—

The best of these are common. Say 4d. for the cost of the turnbuckle; add 3d. for fixing, and, say, 1d. for profit, making 8d. in all.

No. 1. 87 in. brass espagnolette casement fastening :—

	£	s.	d.
Cost of bolt	1	10	0
Fixing, including screws, say	0	3	0
	1	13	0
Ten per cent. profit	0	3	4
	1	16	4

No. 1. Archibald Smith's (Leicester-square) 40 in. brass water-bar, for French casement:—

The cost of this is 6d. per inch, net.

	£	s.	d.
40 in. run of bar, at 6d.	1	0	0
Fixing, including screws, say	0	1	6
	1	1	6
Ten per cent. profit	0	2	2
	1	3	8

No. 12. Japanned casement stay-bars:—

The prices of these vary very much; a good one, of malleable iron, can be bought at 10d.

	£	s.	d.
Cost of bar	0	0	10
Screws	0	0	0½
Fixing	0	0	4
	0	1	2½
Ten per cent.	0	0	1½
	0	1	4

No. 1. Brass bronzed door-knob, *P.C.* 4s.:—

	£	s.	d.
Cost of knob, including bolts	0	4	0
Fixing	0	0	4
	0	4	4
Ten per cent. profit	0	0	5
	0	4	9

No. 1. Wrought-iron quadrant, with brass pulleys, lines, and pins, for opening skylight:—

	£	s.	d.
Cost of quadrant	0	1	3
Two pulleys	0	0	10
One brass eye	0	0	1
One brass cleat hook	0	0	7
8 yards No. 2 line	0	0	4
Screws	0	0	2
Fixing—say, 2½ hours at 9d.	0	1	10½
	0	5	1½
Ten per cent. profit	0	0	6½
	0	5	8

No. 1. Turned ash pole, 7 ft. long, with brass crook fo opening top sash :—

	£	s.	d.
Cost of brass crook	0	0	9
7 ft. ash-turned pole	0	1	3
Fixing crook and screws	0	0	4
	0	2	4
Ten per cent. profit	0	0	3
	0	2	7

BILL No. 8.

SMITH AND BELLHANGER.

CAST IRON.

135 ft. run. 3 in. diameter rainwater pipe and fixing:—

The cost of iron fluctuates a good deal, and an estimater requires to keep himself well posted in the prices of the day; and if he should succeed in obtaining the work, it would be wise to place the orders as soon as possible, if the markets are low; the cost of 3 in. pipe is 9½d. per yard, say 3¼d. per foot.

	£	s.	d.
Cost of 3 in. pipe	0	0	3¼
Loss on sockets mostly measured in by makers	0	0	0¼
Fixing, including pipe nails	0	0	2½
	0	0	6
Ten per cent. profit	0	0	0¾
	0	0	6¾

No. 2. Swan-neck bends, 6 in. projection :—

The cost of these beyond that of the pipe, for it is "extra only," is 10d. each.

	£	s.	d.
Cost of bend extra over pipe	0	0	10
Extra on fixing, say	0	0	3
	0	1	1
Ten per cent. profit	0	0	1½
	0	1	2½

No. 2. Swan-neck bends, 15 in. projection:—

The same remark applies to this as to the last item: it is "extra only"; the cost is 2s. more than the pipe measured.

	£	s.	d.
Cost of bend	0	2	0
Extra labour and fixing	0	0	4
	0	2	4
Ten per cent. profit	0	0	3
	0	2	7

No. 3. Swan-neck bends, 24 in. projection:—

	£	s.	d.
Extra cost of bend over pipe	0	3	1
Extra labour, &c.	0	0	6
	0	3	7
Ten per cent. profit	0	0	4½
	0	3	11½

No. 9. Shoes and fixing:—

These, again, are extra only, but they are short; they cost 5d. extra.

	£	s.	d.
Cost of shoe (extra only)	0	0	5
Extra cost of fixing	0	0	2
	0	0	7
Ten per cent. profit	0	0	1
	0	0	8

No. 1. Head and fixing:—

These vary very much in design and size; a fair ordinary head costs 2s.

	£	s.	d.
Cost of head	0	2	0
Fixing and nails	0	0	4
	0	2	4
Ten per cent. profit	0	0	3
	0	2	7

In this case the pipe is no doubt measured—*i.e.*, taken up to the gutter, but it would be unwise to allow of any reduction for it.

36 ft. run. 4 in. by 3 in. moulded eaves gutter, jointed and bolted in red lead cement, and fixed with screws:—

The cost of gutters varies with the design, and they are cast of more than one thickness; a good fair 4 in. by 3 in. moulded gutter would cost 3½d. to 4d., delivered on to the works.

	£	s.	d.
Cost of gutter per foot, say	0	0	4
Loss in laps, say	0	0	0½
Fixing	0	0	2½
Red lead cement, bolts, and screws ...	0	0	1
	0	0	8
Ten per cent. profit, say	0	0	1
	0	0	9

No. 2. Angles to 4 in. by 3 in. gutters:—

The extra cost of these beyond the cost of gutter is about 1s.; an angle measures one foot each way, so that from the cost of the angle you have to deduct the cost of two feet of gutter.

	£	s.	d.
Cost of angle (extra only)	0	1	0
Extra fixing, bolts, &c.	0	0	6
	0	1	6
Ten per cent. profit, say...	0	0	2
	0	1	8

No. 2. Outlet to ditto:—

An outlet measures about one foot in length, and allowing for socket or flange about 9 in.—the cost will vary a little with the size of rainwater pipe the outlet has to fit—the extra cost of one to fit 3 in. pipe would be about 1s.

	£	s.	d.
Cost of outlet	0	1	0
Fixing extra bolts, &c.	0	0	6
	0	1	6
Ten per cent. profit, say	0	0	2
	0	1	8

No. 4. Stopped ends to 4 in. by 3 in. gutter:—

These cost about 3½d. each, and are not extra only.

	£	s.	d.
Cost of stopped end	0	0	3½
Fixing, red lead, putty, bolts, &c. ...	0	0	3
	0	0	6½
Ten per cent. profit, say	0	0	0¾
	0	0	7¼

279 ft. run. 5 in. half-round eaves gutter jointed and bolted in red lead cement, and fixed to fascia with strong wrought-iron brackets:—

The cost of this gutter is about 7d. per yard, say, with loss on flanges, 7½d. per yard, or 2½d. per foot.

	£	s.	d.
Cost of gutter	0	0	2½
2 brackets to 6 ft., say per foot	0	0	1½
Gutter bolts, red lead cement	0	0	0¾
Fixing	0	0	2½
	0	0	7¼
Ten per cent. profit	0	0	0¾
	0	0	8

The fixing may be done for a little less than 2½d.

No. 7. Angles to 5 in. half-round gutter:—

These angles, like the last, are "extra only," the cost beyond 2 ft. of gutter is about 6d.

	£	s.	d.
Cost of angle	0	0	6
Extra fixing, bolts, &c.	0	0	6
	0	1	0
Ten per cent., say	0	0	1½
	0	1	1½

No. 4. Octagonal angles to ditto:—

These are extra only over the cost of gutter, and if regular, or ordinary stock angles (for octagonal angles are kept in stock), will cost 2s. in excess of 2 ft. of gutter.

	£	s.	d.
Cost of angle	0	2	0
Fixing, bolts, &c., as before	0	0	6
	0	2	6
Ten per cent. profit, say...	0	0	3
	0	2	9

If the angle is one you cannot obtain from stock, or they have to be made "special," a mould has to be made for them, fitted to the angle of brickwork or fascia of bay window, and the cost would vary from 2 to 3 times the cost of the stock one, varying with the number required.

No. 7. Outlets to ditto:—

	£	s.	d.
Cost of outlet, beyond gutter	0	0	6
Fixing, &c.	0	0	3
	0	0	9
Ten per cent. profit	0	0	1
	0	0	10

No. 4. Stop ends to ditto:—

The cost of these (not *extra only*) is about 2½d. to 3d. each.

	£	s.	d.
Cost of stopped end	0	0	3
Fixing, &c.	0	0	3
	0	0	6
Ten per cent. profit	0	0	0¾
	0	0	6¾

No. 1. Hayward's 12 in. diameter illuminating coal-plate and frame, with staple and chain fastening and fixing:—

The cost of the plate with chain complete is 6s. 6d., and the only fixing is driving the staple, which has to be provided beyond the 6s. 6d.; the hole in paving is taken in Mason.

	£	s.	d.
Cost of plate	0	6	6
Staple	0	0	1
Driving staple, &c., say	0	0	2
	0	6	9
Ten per cent. profit	0	0	8¼
	0	7	5¼

WROUGHT IRON.

2 cwt. 7lb. in chimney bars and building in:—

These are usually made from common English bar iron, the cost of which varies almost daily; put it at 8s. per cwt. or £7 10s. by the ton.

	£	s.	d.
Cost of iron per cwt.	0	8	0
Cost of labour on them, say	0	6	0
Fixing—costs but little, say	0	1	0
	0	15	0
Ten per cent. profit	0	1	6
	0	16	6

I have provided only 1s. for "fixing," but it is really for cartage and carrying up the building, &c., as I do not consider it worth an extra beyond the price included for the labour in brickwork.

3 cwt. 2 qrs. in framed guard bars and fixing:—

These are made from a better quality of iron, which costs from 9s. 6d. to 10s. per cwt., the lesser amount if bought by the ton; it is usual where there is steam to have a steam drill, which is very useful for this kind of work and very economical.

	£	s.	d.
Cost of iron per cwt.	0	10	0
Labour, including fixing...	0	11	0
	1	1	0
Ten per cent. profit	0	2	2
	1	3	2

If there is no steam drill, add 2s. 6d. per cwt.; the price here given I consider a low one, and if the upright bars are shouldered into the horizontal bars and riveted, add 4s. per cwt.

No. 36. Ends of ¾ in. bar pointed:—

These are worth, with profit, 3½d. each; it would take a smith about ten minutes to heat, shape, and file one—there is his mate to provide for, fire, files, &c.; a good builder's smith is paid 9d., and his mate 6d. per hour—about 3d. would, I think, cover the cost of fire and files, making 1s. 6d. per hour *all*.

1 qr. 7 lb. in framed balusters and fixing:—

These are worth about the same as the guard bars, 23s. 2d., including profit, and add the 4s. for the shouldered and riveted ends, making 27s. 2d. in all—there is only the handrail, instead of two horizontal bars, but there is in consequence more labour in fixing.

9 ft. run. 1½ in. half-round handrail:—

This weighs about 2 lb. to the foot, and should be priced at the same as the balusters. The iron costs more, but I have averaged the cost; 27s. 2d. per cwt. is equal to 3d.

per pound; 2 lb. at this will give 6d. per foot run including profit; there is no ramp or scroll taken, so I presume there is none. Where they are taken they must be priced beyond the price given per cwt.

No. 10. ⅝ in. diameter bolts 12 in. long with heads, nuts, and washers and fixing by carpenter:—

These may be bought in quantities from the provincial bolt makers, and cost about 22s. per cwt., including heads, nuts, and washers, or bolt ends may also be bought and lengthened to any length required by welding on a piece.

	£	s.	d.
Cost of ⅝ by 12 in. bolt, say	0	0	5
Fixing	0	0	4
	0	0	9
Ten per cent. profit	0	0	1
	0	0	10

No. 4. ¾ in. bolts 18 in. long, with heads, nuts, and washers, and fixing by carpenter:—

	£	s.	d.
Cost of bolt, say	0	0	8
Fixing	0	0	5
	0	1	1
Ten per cent. profit	0	0	1½
	0	1	2½

I have in each case allowed a little more for the bolts than at the rate of 22s. given by me.

No. 1. Framed grating, 2 ft. 3 in. by 1 ft. 6 in., weight about 56 lb., and fixing:—

There is only one to price; if there were any quantity some better description would be required, the size of bars, distance apart, &c.; an ordinary grating will cost 3½d. to 4d. per pound, say, 4½d. with profit.

BELLHANGER.

No. 16. 14 oz. bells of varied tone, with No. 22 pulls, hung with No. 16 stretched copper wire in concealed tubing, with brass cranks, steel springs, and pendulum, &c., complete in best manner:—

These are in many cases let to bellhangers at so much a pull complete, at prices varying from 7s. 6d. to 15s., including the pulls that follow. Good bells can be hung, excepting the pulls, but including everything else, at 8s. to 9s. a pull prime cost, say, 8s. 6d., and add 10 per cent., making 9s. 4d., including profit.

PROVIDE AND FIX THE FOLLOWING FITTINGS TO THE FOREGOING BELLS.

No. 5. Rose purchase crank pulls:—

The cost of these beyond the sum I gave for bells, &c., is 3s. 6d., fixed complete, and add profit to this.

No. 1. Brass sunk slide pull:—

Price this at the same; there is very little variation in cost.

No. 8. Lever pulls, *P.C.* 4s. each:—

There is a discount to builders off pulls varying from 10 to 25 per cent., say, 10 per cent. off; 4s. = 5d. (about) leaving 3s. 7d. as the cost; add 6d. for fixing, the crank is included in the price given for bell, &c., and the block is provided in an item farther on in this bill; these *P.C.* provisions should be done away with, and a sum provided, including the builder's profit. The builder should produce the receipted account, and if the architect has reason to doubt its genuineness he can obtain a trade list and learn the trade discount if he wishes. These remarks apply to any provisions in any trade.

	£	s.	d.
Net cost of lever pull	0	3	7
Fixing	0	0	6
	0	4	1
Ten per cent. profit	0	0	5
	0	4	6

The making good to plastering is included earlier—the estimater can take the 10 per cent. off the provided *P.C.* of pull or not, as he chooses. The gross price is the only price in the factors' books.

No. 6. Lever pulls, *P.C.* 7s. 6d. each :—

Take off 10 per cent. from 7s. 6d., leaving 6s. 9d., and add the same items as last.

	£	s.	d.
Net cost of lever pull	0	6	9
Fixing	0	0	6
	0	7	3
Ten per cent. profit, say...	0	0	9
	0	8	0

No. 2. Brass bronze sunk pulls, *P.C.* 7s. 6d., and fixing to brickwork :—

In this item the cost of fixing is more, and if they are fixed to outside piers—*i.e.*, those at garden entrance of house, a piece of gas barrel will be required for the wire to run in underground.

	£	s.	d.
Net cost of sunk pull	0	6	9
Iron pipe (say 20 ft. ¾ in.)	0	3	6
Fixing	0	2	6
	0	12	9
Ten per cent. profit	0	1	3
	0	14	0

Allow for cutting away for, and attending on bellhanger, and making good in all trades, and including all necessary bell-boards, cranks, boxes, bearers, &c., and fixing floor-boards with brass screws and cups where required:—

The "attend on and make good" is included in the item in Bill 1; the cranks in item 1 of this Bill.

	£	s.	d.
Bell-board, 10 ft. by 11 in. by 1¼ in. planed one side and beaded	0	4	
2 ends return beaded	0	0	8
4 oils painting to face and edges ...	0	1	0
24 blocks let into walls and wedged to secure pulls	0	8	0
Fixing floor boards for 24 pulls with brass screws, &c., say	0	8	0
	1	2	3
Ten per cent. profit	0	2	3
	1	4	6

Since the introduction of electric and pneumatic bells, the old-fashioned wires and cranks are fast disappearing; the electric bells are the best, if only for the neatness of the furniture, which is so much smaller; *best* electric bells cost 20s. a pull fixed complete, exclusive of profit; they are fixed as low as 13s. Pneumatic bells are about the same in cost.

BILL No. 9.

PLASTERER.

THE LIME TO BE RUN INTO PUTTY, THE SAND TO BE CLEAN AND SHARP.

608 yards super. Twice whiten ceilings:—

This is worth 2d. per yard super., including profit; it is nearly always done by painters, although taken and inserted in the plasterer's bill by the surveyor; this price of 2d. is a low one, for the labour is worth 1½d. out of it, and the material ½d. at the least—the labour a little less, the material a little more. This price is for plain colours only, and any other, to walls, &c., would have to be added extra; white, grey, and buff are common or plain colours.

652 yards super. Render, float, and set to walls:—

The cost of material averages 1d. per yard per coat, and the cost of labour 2d.—this latter is a good fair price: it is done as low as 5½d. the three coats. The price of material is low, and at Hampstead 1d. on the 3 coats must be added for extra cartage.

	£	s.	d.
Material, 3 coats	0	0	3
Labour	0	0	6
Extra cartage	0	0	1
	0	0	10
Ten per cent. profit	0	0	1
	0	0	11

53 ft. super. Render, float, and set to walls in narrow widths :—

The labour on narrow widths is about twice the cost of ordinary work; there is no increase for cost of material.

	£	s.	d.
Cost of R.F.S. per yard super.... ...	0	0	10
Extra on labour	0	0	6
	0	1	4
Ten per cent.	0	0	1½
	0	1	5½

This is, roughly speaking, 2d. per foot super., dividing the 1s. 5½d. by 9 ft. to the yard super.

9 ft. super. Render, float, and set to walls in narrow widths to circular soffits :—

To the last item add 50 per cent. for circular over straight, making 3d., including profit. This gives about three times the cost of labour to straight; the material is the same, as the net measurement is given in both cases.

36 yards super. Lath, plaster, and set to ceilings :—

To the cost of render, float, and set to walls add lathing *P.C.* 5d. per yard, and additional labour to ceilings, both for lathing and covering, 1d.; the price of 5d. for lathing being for single laths in upright work; if the lathing is let, it can be let labour or labour and material at an all-round price.

	£	s.	d.
Render, float, and set	0	0	10
Lathing	0	0	5
Extra on ceilings, as stated	0	0	1
	0	1	4
Ten per cent. profit	0	0	1¾
	0	1	5¾

From this price of 1s. 5¾d., calculated for render, float, and set, or plaster, float, and set (the same thing), deduct one coat, but only at 1½d. or 1¾d., for there is not so much difference in two and three coats in labour; if two coats only are done the first coat has to be floated and scratched to take the setting coat, say 1s. 4d., including profit, for this item.

529 yards super. Lath, plaster, float, and set partitions:—

This item costs about ½d. per yard less than the one of ceilings, and is made up thus:—

	£	s.	d.
R.F.S.	0	0	10
Lathing	0	0	5
Extra labour, R.F.S. on lath	0	0	0½
	0	1	3½
Ten per cent. profit	0	0	1½
	0	1	5

165 ft. super. Lath, plaster, float, and set in narrow widths:—

To the last cost add 6½d., being the cost of labour, and thus giving twice the cost of ordinary work, as in item "Render, float, and set in narrow widths." This gives a cost of 1s. 10d. per yard; price at 2½d. per foot super., including profit.

434 yards super. Lath, plaster, float, and set to ceilings:—

The value of this I gave in a detail under the item "Lath, plaster, and set"—*i.e.*, 1s. 5¾d. per yard super., including profit.

138 yards super. Lath, plaster, float, and set to sloping ceilings:—

There is extra labour to allow for on this item, but only ½d. or ¾d. in value, including profit, at ¾d., making 1s. 6½d. er yard; there is an angle to work extra where the sloping iling meets the level one; there is little beyond this.

16 yards. Lath, plaster, float, and set to soffit of stairs, part flueing:—

The labour on the parts that are twisted flueing or wreathed is worth five times that of the straight, and should, I think, be taken separate; the lather, where the lathing is sublet, measures it in with the other work, but if done daywork it is worth much more. The principal extra is in the labour in laying on the plastering, and more especially in the setting coat. Turning to the Joiner, I find the winders are one-tenth of the quantity of flyers or straight steps taken there, which variation would be near enough to reckon from.

	£	s.	d.
Say 9 yards of ceiling work sloping at 1s. 6½d....	0	13	10½
Say 1 ditto	0	4	3
10)	0	18	1½
	0	1	9¾

This last item of 4s. 3d. was arrived at in the following manner:—

	£	s.	d.
Cost of lathing	0	0	5
Five times cost of ordinary labour ...	0	3	1½
Material	0	0	4
	0	3	10½
Ten per cent. profit	0	0	4½
	0	4	3

Price at an even sum of 1s. 10d.; this will cover any loss on lath, and fraction of profit to make 10 per cent. in the above detail.

106 ft. run. Quirk in plaster:—

This is mostly to soffits of stairs next bead of outer string or round trapdoors, and can be done at 1d., including profit, and at ¾d. in large quantities.

No. 6. Mitres to splay, average 11 in. wide :—

This is worth about one foot run of the work, *i.e.*, 2d.

318 ft. super. Fine plaster moulded cornice :—

This is a difficult item to give a cost of that will meet all cases, for so much depends on the pattern of the cornice and on labour, which varies enormously. The labour is worth from 3d. to 5d., the cost of plaster (usually having some putty mixed with it to keep it from setting too quickly and make it work free) varies from 2d. to 3d.

	£	s.	d.
Labour, say	0	0	4
Material (outside value)...	0	0	3
	0	0	7
Ten per cent. profit	0	0	0¾
	0	0	7¾

335 ft. run. Fine plaster moulded cornice, 9 in. girt :—

Take ¾ths of the last item and thus price at an average price large and small, but by the superficial contents; put this at 6d., which is as near as you can get.

80 ft. super. Fine plaster moulded cornice, 12 in. girt :—

Price this at the same rate as the first item of plaster cornice.

212 ft. run. Plaster enrichment 3 in. wide :—

The cost of this is about 1d. to 1¼d. per inch in width, varying with the pattern; the price would include fixing; this gives 3¾d. per foot run for 3 in. wide, and add profit to his.

No. 24. Mitres to enrichment :—

Price these at one foot of the enrichment mitred.

No. 65. Mitres to moulded cornices, average 13 in. girt:—

Price these at 13 in. super. of plaster cornice, labour, and material:—

No. 4. Stopped ends to cornice, average 10½ in. girt:—

A stopped end is worth half the price of a mitre to the same cornice; therefore, price this at half a mitre to 10½ in. of cornice. The price per foot super. was given at 7¾d., say 8d., for ease in calculating these parts; 10½ in. at 8d. = 7d., price a mitre, therefore, on 10½ in. at 7d., and a stopped end at 3½d.

No. 3. Centre flowers, *P.C.* 40s. each, and add fixing:—

This is one of those items the cost of which depends on whether the trade discount is to come off or not, it varies from 20 to 25 per cent. I will assume it is not, and the estimator can take it off if he finds by experience he may safely do so.

	£	s.	d.
Cost of flower	2	0	0
Fixing, and making good ceiling round it afterwards	0	5	0
	2	5	0
Ten per cent. profit	0	4	6
	2	9	6

This price of fixing would cover fixing in plaster or papier-maché. The latter costs less than the plaster, and there need be no making good, so the estimator could, if he finds they are to be in papier-maché, put "fixing" at half the price given—*i.e.*, 2s. 6d.

3 ft. super. Render, float, and finish bastard-stucco, each coat gauged with one-sixth part of Portland cement, in small panel:—

The quantity here is so very small that it is worth twice as much as ordinary work; take the render, float, and set in the earlier part of this bill as a basis to work from.

	£	s.	d.
Cost of R.F.S.	0	0	10
Cost of cement, say	0	0	3
Extra labour to stucco, including gauging	0	0	3
Extra for small sizes and being in *panels*	0	0	3
	0	1	7
Ten per cent. profit	0	0	2
	0	1	9

This gives a little over 2¼d. per foot super., and should be at least doubled, as there is only *one panel* to do.

11 ft. super. Lath, plaster, float, and set and finish as last:—

Here there is more than in the previous item, and I should price it at 4d. per foot, this price including profit and extra cost of lathing.

32 ft. super. Lath, plaster, float, and set, &c., as last, but to coved corbel to octagon oriel:—

Here, again, the quantity is large, and the first of these items may be taken as a basis, leaving out the 3d. for being in panels.

	£	s.	d.
Cost per yard super.	0	1	4
Add 50 per cent. for being circular work	0	0	8
Add for lathing	0	0	5
	0	2	5
Ten per cent. profit	0	0	3
9)	0	2	8
	0	0	3½

No. 8. Mitres to ditto, average 45 in. girt:—

This is circular arris, and worth three times straight for labour only—*i.e.*, 3d. per foot run, including profit; this is a good price, and where there is a quantity may be reduced.

23 ft. run. Lath, plaster, float and finish bastard stucco to cove 12 in. girt under eaves; each coat to be gauged with cement as before, and in the same proportion :—

The girt is small for this kind of thing, and the item should be priced a little higher, say 4d. per foot run, including profit.

146 ft. run. Lath, plaster, float, and finish bastard stucco, all as last, but 24 in. girt :—

Here the quantity and girt permit of the item being priced at the original "basis price" (less 3d. for panel work) of 1s. 4d. per yard, or 2d. per foot including profit, and add the lathing. I have allowed no extra on circular lathing; this gives, say, 5d. per foot run 24 in. girt.

No. 4. Mitres to cove, 24 in. girt :—

Price this item at a foot run of the last item, 5d.

No. 8. Stopped ends to ditto :—

This I should price at the same rate as the other stopped ends—*i.e.*, half that of a mitre, 2½d., including profit.

169 ft. run. Quirk in stucco :—

It will be near enough to price this at the same as the former "Quirk."

5 ft. run. Arris and narrow return in stucco :—

Narrow return is a vague description; if there were a large quantity such an item should be closely priced. It may be only the return of its own thickness, or the edges in the panel. Price the arris at 1d., and the narrow return at 1d. in ordinary quantities; in such a small item as this, add another 1d., making 3d., including profit.

PORTLAND CEMENT.

4 ft. run. Moulding 9 in. girt:—

In large quantities moulding may be priced labour, material, and profit at 1d. per inch for middling size mouldings; increasing for mouldings that are small in size or quantity. The plasterer's bill has a great number of small items in it, and this is a *very* small one; a mould must be made specially for it, and a rule or ground tacked up to run on. This mould and rule fixing will cost about 2s. to 2s. 6d., say 7½d. per foot with profit, and then add 9d. per foot for moulding, making 1s. 4½d. per foot run; it is, of course, not usual to go into these working details in pricing, but until you are thoroughly versed in all you have to take into consideration in valuing an item it will be necessary for you to go into them; experience will teach you to see at a glance what is required and add for it.

No. 4. Returned, mitred, and stopped ends to 9 in. moulding:—

There is material as well as labour to allow for here.

	£	s.	d.
Say one foot of 9 in. cornice for the mitre	0	0	9
Half this for stopped end	0	0	4½
Say 6 in. of moulding (the part on returned end)	0	0	4½
Including profit	0	1	6

74 ft. run. Weathering to chimney-cap, 15 in. girt, circular:—

Portland cement, plain face is worth 1s. 6d. per yard super. (inclusive of profit); this is 2d. per foot super. (This is for large quantities only, and not jointed to imitate stone, and is considered a low price). Circular would be 50 per cent. on this; this is at the very top of the building too.

	£	s.	d.
15 in. at 3d. per foot super.	0	0	3¾
Add 2 arrises	0	0	2
Including profit	0	0	5¾

No. 20. Mitres to weathering:—

Take 15 in. of circular arris, at 3d., as before.

KEENE'S CEMENT.

278 ft. run. Angle and narrow return:—

Keene's cement work is worth about half as much again as Portland cement work, labour, and material; price this at 50 per cent. on the former arris and narrow return, which I priced the same as if in Portland cement entirely: 3d., including profit.

4 ft. run. Angle and narrow return, circular:—

Price at 50 per cent. on the last item; it is worth really a little more.

112 ft. run. Chamfer 3 in. wide and narrow return:—

	£	s.	d.
Two arrises	0	0	2
Return in Keene's and small amount of plain face	0	0	1½
Including profit	0	0	3½

As there is a fair quantity of this I have put the labour low; the plain face and return are worked in working the arrises.

15 ft. run. Chamfer 3 in. wide and narrow return, circular:—

The price I gave for the 3 in. chamfer was 3½d., including profit, add 50 per cent. to this for the "circular"—say 5d.; a chamfer includes narrow returns to both the arrises.

No. 8. Splayed stops to ditto :—

A mitre on this chamfer would be priced at one foot of straight—*i.e.*, 3½d.; price this stop at the same, the labour is about equal; there is, if anything, a little more to this.

No. 10. Mitres to ditto :—

Price this at one foot of the chamfer, 3½d., including profit.

6 ft. run. Soffit 5 in. wide, on lath with staff-beaded angle :—

Price this soffit at 2d., including lathing, and add 3d. for the staff bead; 5d. in all, including profit.

21 ft. run. Reveal 6 in. wide with staff-beaded angle :—

This I should price at the same rate as the last item.

No. 2. Mitres :—

Price these at one foot run of reveal and bead; 5d., including profit.

20 ft. run. Rounded angle, 4 in. girt :—

Take one and a half of arris as the value of the angle, and add 1½d. for two narrow returns, making 3d., including profit.

Make good all cracks, blisters, &c.:—

This was allowed for in the general item of "making good;" care should be taken if the estimator wants to obtain the work to avoid pricing an item twice—*i.e.*, including it in a general one, and then attaching a price to any part of this general item that may be taken separately elsewhere. I do not suggest that this item should not appear in the quantities but only that in pricing the general one I have included this; the question of blisters often becomes a serious one—the lime should be run and no coarse stuff put on until it has stood some time. Many working plasterers will tell you that if you run the lime you can use the lime and hair, or coarse stuff, at once, without getting blisters, but they are wrong; the setting coat also requires skilful labour to make a good job of—the floating being well scratched to key to, the sand being well washed before being mixed with the putty, and used in sufficient quantity to avoid *fine* cracks.

BILL No. 10.

PLUMBER AND ZINC WORKER.

37 cwt. 0 qr. 14 lb. in milled lead and laying in gutters and flashings, &c. :—

The present price of sheet lead is £15 per ton, or 15s. per cwt., delivered at Hampstead. Sheet lead varies very much; it is generally sold at about £1 per ton beyond the price quoted in the daily papers for "pig lead;" lead pipe at 10s. per ton beyond this, and soil-pipe a further sum of £2 10s. per ton.

	£	s.	d.
Sheet lead per cwt.	0	15	0
Allow for loss on cuttings, sold at 2s. to 2s. 6d. per cwt. less than cost, and 4lb. deducted for "tare"	0	0	6
Labour and solder laying	0	4	0
	0	19	6
Ten per cent. profit	0	2	0
	1	1	6

The labour and solder in large plain work may be done as low as 3s. 6d. to 3s. 9d. per cwt.

2 cwt. 1 qr. in milled lead and laying in stepped flashings:—

Price this item at the same as the last; there is more labour than to some part of the other, but there is the lead saved from the vandyking on upper edge that quite compensates for it; the flashings are usually measured parallel by surveyors.

3 cwt. 1 qr. in milled lead and laying in safes and linings to sinks:—

To the first item add 2s. 6d. per cwt. for extra labour making £1 4s. per cwt., including profit.

3 ft. run. Soldered angle:—

There is very little of this; the value of the item is 6d. in large quantities, and in small half as much again. I have added on the extra labour to sink, &c., and in that sum included solder; this item is, I presume, some extra angles, for there is not enough for the safes and sinks taken above. The prices given include profit.

16 ft. run. Close copper nailing:—

The value of this, labour, material, and profit, is 3d. per foot run beyond the labour, &c., added to sinks and safes, which would only include open nailing.

40 ft. run. Dressing lead to narrow hip-gutter:—

This is an extra labour which should be priced; the items of labour given with lead-laying include only the ordinary work, and this does not come under that head; the labour is to form a narrow shallow gutter under a close-cut or mitred hip—it is worth 4d. per foot, beyond the labour allowed, including profit.

No. 48. Ends of roll bossed:—

This I consider included in the price quoted; they are worth from 6d. to 9d. each for extra labour and solder, including profit, the price varying with the size.

ALL TAPS AND PIPES TO BE OF THE REQUISITE QUALITY AND STRENGTH, AND ALL THE ARRANGEMENTS OF THE WATER SUPPLY TO BE EXECUTED ACCORDING TO THE REQUIREMENTS OF THE WATER COMPANY AND TO THE SATISFACTION OF THEIR INSPECTOR.

It is very necessary to have a copy of the rules of all the London water companies for reference, for they differ materially. A little should be added to the prices I am now going to give for pipes, to cover the waste, which is really a small item.

8 ft. run. 1¼ in. middling lead pipe, including joints and fixing:—

This pipe would weigh 3 lb. to 4 lb. to the foot, say 4 lb.; this would come to about 7d. at the prices given in the first item of this bill.

	£	s.	d.
Cost of pipe	0	0	7
Labour, solder, and wallhooks, say ...	0	0	5
	0	1	0
Ten per cent.	0	0	1¼
	0	1	1¼

I doubt whether there is any solder to this—the joints would go with brass work, &c.; plumbers' work is a difficult one to obtain a cost of that you can rely on, for there is barely one in three who is a really good man, and a comparison of the cost of his labour with that of the other two would confound a beginner at estimating.

46 ft. run. 1½ in. middling lead pipe, including joints and fixing :—

1½ in. pipe runs 4 to 5 lb. to the foot; take it at 5 lb.

	£	s.	d.
Cost of 1½ in. pipe, say...	0	0	8½
Labour, &c.	0	0	6
	0	1	2½
Ten per cent. profit	0	0	1½
	0	1	4

These are very low prices for pipes, but the price of lead is low; 4 or 5 years ago it was varying at from 50 to 75 per cent. beyond the one given.

3 ft. run. 2 in. middling lead pipe, as last :—

This pipe would weigh 6 lb. to the foot; there are lighter pipes than those provided, that are called "middling."

	£	s.	d.
Cost of 2 in. pipe	0	0	10½
Labour, &c.	0	0	7
	0	1	5½
Ten per cent. profit	0	0	1¾
	0	1	7¼

This looks like a waste to a sink or an overflow, and there would really be no joints to provide, the one to brasswork being included with this latter, the other end being inserted into a drain or being free outside a wall; the price given includes solder joints, except those to brasswork.

227 ft. run. ¾ in. strong lead pipe, including joints, &c., as last :—

The word "strong" with the West Middlesex Water Company means 3 lb. to the foot.

	£	s.	d.
Cost of pipe, say	0	0	5
Labour, solder, &c.	0	0	4
	0	0	9
Ten per cent. profit, say...	0	0	1
	0	0	10

53 ft. run. 1 in. strong lead pipe and joints, &c., as last:—

This pipe requires to be 4 lb. to the foot by the company's printed regulations.

	£	s.	d.
Cost of pipe, say...	0	0	7
Labour, &c.	0	0	4½
	0	0	11½
Ten per cent. profit, say...	0	0	1¼
	0	1	0¾

39 ft. run. 4 in., diameter, 7 lb. lead soldered soil-pipe tacked and collared, and including soldered joints, &c.:—

This pipe will weigh 7½ lb. to the foot run, to which add 1 lb. for tacks; although this is described as made by hand it is almost certain that the mill-drawn soil-pipe would be allowed to be used; it is made from 5 lb. to 7 lb. per foot run, the 5 in. being at the extra I quoted in the first item of this bill. A little more is charged for 7 lb.—*i.e.*, about 6d. per cwt.; these pipes are undoubtedly superior to the hand-made, there being no joint inside for the soil to accumulate on; the only thing the hand-made pipes have to recommend them is that the joint stiffens them.

	£	s.	d.
Cost of mill-drawn pipe, including tacks, 8½ lb. at 2d.	0	1	5
Labour, fixing, including soldered joints and soldering on tacks, &c.	0	0	10
	0	2	3
Ten per cent. profit	0	0	3
	0	2	6

If hand-made pipe is required, add 7d. per foot, including profit; this is a low price.

No. 3. Extra for bends in 4 in. soil-pipe:—

The cost of these depends on their length, and whether they are single or double bends; these latter are mostly required, and would take about three hours of a plumber and labourer, the plumber at 10d. per hour, the labourer at 6½d. It is presumed by the word "extra" that sufficient pipe has been allowed, and this is labour and solder only; the extra over hand-made pipe will not come to so much as I hereunder give by 7d. per foot, being the sum allowed for making it. Allow the bend to be about 2 ft. 6 in. long.

		£	s.	d.
Cost of labour, 3 hours ...	at 1s. 4½d.	0	4	1½
Say 1½ lb. solder... ...	... at 6d.	0	0	9
Fire, &c., say	... ...	0	0	3
		0	5	1½
Ten per cent. profit ...	... ...	0	0	6½
		0	5	8

No. 4. Extra soldered joints in ¾ in. pipe :—

I have included all soldered joints with the pipes, except those that follow with the brasswork; I will price them as they occur.

No. 3. Extra soldered joints in 1 in. lead pipe .—

The same remark applies to this item.

No. 6. Extra soldered joints in 1½ in. pipe :—

The same remark applies. I do not see where the surveyor can find all these "extra" joints; the joints are to be included with the pipe according to the description.

No. 1. Extra soldered joint in 2 in. pipe :—

The same remark applies.

No. 3. Extra soldered joints in 4 in. soil-pipe :—

These I should price, for I did not include the extra joints caused by the bends being required. A joint to a 4 in. soil-pipe is a light one compared with those to smaller pipes; they are worth for labour, solder, and profit, 3s. each.

No. 7. Soldered ends to ¾ in. pipe:—

These are worth 6d. each, including profit.

No. 3. Pieces of 4 lb. lead flashing, soldered to 4 in. pipe:—

These are probably to go round the soil-pipe where it goes through the roof for ventilation; the item is a speculative one as far as the value goes, for it does not state what it passes through, slate or lead.

	£	s.	d.
Say 4 lb. sheet lead	0	0	7
Plumber and labourer, one hour ...	0	1	4½
1 lb. solder	0	0	6
Fire, &c.	0	0	2
	0	2	7½
Ten per cent. profit	0	0	3½
	0	2	11

No. 2. 4 lb. lead collars to ends of 4 in. soil-pipes and making good to drain:—

These would cost about the same as the flashings just priced.

No. 5. Small bead-hinged flaps to 1½ in. lead pipe:—

This is a piece of sheet lead cut to the shape of external circumference of pipe, and two-thirds of it hung in a hinge form by beading the edges and cutting them one into the other, and inserting wire in the hollow bead to form a joint like a butt hinge; the other third of the piece of lead being soldered to the end of the pipe, forming, when finished, a flap not unlike the one in a flap-trap to a sewer; one hour of a plumber and mate would be more than sufficient, *P.C.* 1s. 4½d. The material would cost but little, say 1½d. for it, and 2d. for profit, making 1s. 8d. in all.

No. 1. 1½ in. Beard and Dent's cast lead syphon-trap and soldered joint:—

The cost of this trap would be about 2s. to 2s. 3d., say the latter; I provide 2 joints, although only one is given.

	£	s.	d.
Cost of trap	0	2	3
No. 2, 1½ in. soldered joints	0	3	6
	0	5	9
Ten per cent. profit	0	0	7
	0	6	4

The cost of 1½ in. soldered joint is made up as follows:—

	£	s.	d.
2 lb. solder	0	1	0
Half-an-hour plumber and mate ...	0	0	8¼
Firing, &c.	0	0	0¾
P.C.	0	1	9

This amount of solder will vary with the workman.

No. 2. 4 in. diameter Beard and Dent's 8 lb. lead syphon-traps and one soldered joint and fixing;—

These are heavy traps and would cost about 9s. each net.

	£	s.	d.
Cost of trap	0	9	0
One 4 in. joint, *P.C.*	0	2	9
	0	11	9
Ten per cent. profit	0	1	2
	0	12	11

No. 1. 1 in. brass washer, plug, and chain, and soldering to lead sink:—

	£	s.	d.
Cost of washer, &c.	0	2	6
One joint, including dishing	0	1	9
Half a yard of chain, and fixing ...	0	0	4
	0	4	7
Ten per cent. profit	0	0	5½
	0	5	0½

No. 1. ¾ in. brass screw union with fly-nut for iron, and joint to lead pipe:—

	£	s.	d.
Cost of ¾ in. union	0	1	6
One ¾ in. soldered joint...	0	1	0
Jointing to iron with red lead, &c. ...	0	0	3
	0	2	9
Ten per cent. profit	0	0	3½
	0	3	0½

No. 1. 1 in. brass screw union with fly-nut for iron, &c., all as last:—

	£	s.	d.
Cost of 1 in. union, &c....	0	2	2
One 1 in. soldered joint...	0	1	3
One red lead ditto	0	0	3
	0	3	8
Ten per cent. profit	0	0	4½
	0	4	0½

No. 2. 1¼ in. brass unions, &c., all as last:—

	£	s.	d.
Cost of 1¼ in. union	0	2	6
One 1¼ in. soldered joint	0	1	6
Red and white lead joint	0	0	3
	0	4	3
Ten per cent. profit	0	0	5
	0	4	8

No. 2. ¾ in. brass screw-down stop-cock and soldered joints:—

	£	s.	d.
Cost of cock	0	3	0
Two ¾ in. soldered joints	0	2	0
	0	5	0
Ten per cent. profit	0	0	6
	0	5	6

No. 1. 1 in. brass screw-down stop-cock and soldered joints:—

	£	s.	d.
Cost of 1 in. stop-cock	0	4	6
Two 1 in. soldered joints	0	2	6
	0	7	0
Ten per cent. profit	0	0	8½
	0	7	8½

No. 3. ¾ in. brass screw-down bib-taps, with screw ferrule and soldered joints:—

	£	s.	d.
Cost of ¾ in. screw-down bib and ferrule	0	3	6
One ¾ in. soldered joint...	0	1	0
Screwing in tap after, say	0	0	2
	0	4	8
Ten per cent. profit, say...	0	0	6
	0	5	2

No. 1. ¾ in. brass screw-down bib-tap, with screw nozzle and union for hose:—

Add to the last item 1s. for nozzle and union, 3d. more for labour, and, say, 2d. for profit—making 6s. 7d. in all.

No. 1. Antill's 4 in. cast-lead trap, with brass grate and soldering to stone sink:—

The cost of a 4 in. Antill's patent trap is 3s. There is an evident error in describing it to be soldered. It would have to be fixed with red-lead, putty, or cement.

	£	s.	d.
Cost of trap	0	3	0
Fixing, say	0	0	9
	0	3	9
Ten per cent. profit, say	0	0	4½
	0	4	1½

No. 1. Antill's trap, &c., as last, but fixing to lead sink:—

To the price of the last item add for dishing out and soldering in 2s., and profit 3d., making 6s. 4½d. in all; say 6s. 6d., as there is only one.

No. 1. ½-inch Underhay's self-closing brass lavatory tap, with screw ferrule, elbow and union, and fly-nut for marble top, and joint to lead :—

	£	s.	d.
One ½ in. spring tap, with screw ferrule	0	5	6
One ½ in. soldered joint...	0	0	9
Three red-lead putty ditto	0	0	6
Elbow, with union and fixing	0	4	9
	0	11	6
Ten per cent. profit	0	1	2
	0	12	8

I do not think a ferrule would be required if an elbow is used; I have, however, priced it.

No. 2. ¾ in. Underhay's brass equilibrium ball-valves and copper ball, and soldered joints :—

	£	s.	d.
Cost of ¾ in. valve and ball	0	6	2
Cost of one ¾ in. soldered joint... ...	0	1	0
	0	7	2
Ten per cent. profit	0	0	8½
	0	7	10½

I have here provided the dearest and best. There are several prices for these valves.

No. 1. White glazed earthenware oval basin and trap, set in brickwork in cement, and making good to drain, and putty joint to lead pipe :—

These may be purchased as low as 2s. 3d. each, which is a very low price.

	£	s.	d.
Pan and trap, say	0	3	0
Labour and materials, setting	0	5	0
Putty joint to pipe	0	0	6
Cement joint with drain	0	0	6
	0	9	0
Ten per cent. profit	0	0	11
	0	9	11

No. 1. White glazed lavatory-basin, with 1 in. brass washer, plug, and chain :—

	£	s.	d.
Cost of 14 in. basin	0	2	9
1 in. washer, &c....	0	2	10
Fixing latter	0	0	6
Bedding basin in red-lead putty ...	0	0	9
1 in. soldered joint to pipe	0	1	3
	0	8	1
Ten per cent. profit	0	0	10
	0	8	11

No. 1. Galvanized cast-iron water waste-preventing cistern of approved make, and including all joints and bearers, and chain and ring, handle, and fixing complete.

There are a great many varieties of waste-preventing cisterns, varying from 8s. 6d., complete (not galvanized) up to 30s.; a very good one can be purchased for 21s., galvanized and complete.

	£	s.	d.
Cost of cistern	1	1	0
Labour, fixing, including joints, one ½ in. and one 1¼ in. one ¾ in. to overflow...	0	6	6
Cost of two brackets, chain, and ring	0	3	0
	1	10	6
Ten per cent. profit	0	3	1
	1	13	7

I have presumed that all the pipe is taken. A bellows regulator would do all the work required by this for half the money (including a valve and stand); these waste-preventers should have an after-flush, which is not described or taken.

No. 2. Tylor's best quality valve closets with white basin, brass sunk, dish, ivory porcelain handle, and 1 in. waste-not regulating valve, and including all joints and fixing complete :—

	£	s.	d.
Cost of closet	4	10	0
Fixing, including joints	0	9	0
	4	19	0
Ten per cent. profit	0	10	0
	5	9	0

No. 1. Galvanized wrought-iron rivetted cistern to hold 200 gallons, with angle-iron round top and tie-bar, including all perforations, and hoisting and fixing complete :—

The cost of a cistern of this description, delivered, is 3d. per gallon.

	£	s.	d.
Cost of cistern	2	10	0
Three holes cut	0	2	3
Tie-bar and rivetting (not included in price given above)	0	3	6
Hoisting and fixing	0	2	6
	2	18	3
Ten per cent. profit	0	5	10
	3	4	1

The cost of cisterns will, of course, vary with the market prices of iron and zinc.

No. 1. 300 gallon cistern as last, and hoisting and fixing on second floor :—

The cost of this will be 2¾d. per gallon, exclusive of the tie-bar.

	£	s.	d.
Cost of cistern	3	8	9
Cost of tie-rods	0	3	6
Three holes	0	2	3
Hoisting and fixing	0	3	6
	3	18	0
Ten per cent. profit	0	7	10
	4	5	10

I have provided the same price for fixing and tie-bar for this as for the smaller one. The difference is scarcely worth adding; in a special quotation for such cisterns the price would include the tie-bar.

Allow for making connection with company's main, and including ¾ in. brass screw ferrule, and soldered joint, and opening and making good road, and paying fees.

This fee varies, like all items connected with the water supply, with the company in whose district it lies. The charge by the West Middlesex Company is 5s. for opening the ground, providing ferrule and fixing it. This is a very moderate one, the New River Company charging three or four times as much at the least.

	£	s.	d.
Fee to Company	0	5	0
¾ in. joint...	0	1	0
	0	6	0
Ten per cent. profit	0	0	7½
	0	6	7½

It is presumed that all the pipe is taken; for such an item as this I should add a little, for fear there is not enough taken, and a little for any extra digging beyond that done by the company, and say 15s.

ZINCWORKER.

355 ft. super. No. 16 gauge zinc, laid in the best manner to flats, &c., and including all solder and nails, &c.:—

The usual course is to let this work to a zincworker, or to a company; either of these will lay it complete as described. The gauge of zinc is altered of late years, and it is generally specified by the old gauges.

16 gauge (old) can be laid complete at a cost of 6½d. or 7d.; labour and solder is worth 1½d. to 2d. per foot; the cost of the zinc can be obtained by adding a foot at this gauge, at the present market rate, and thus the cost is got if your own men do it. Allow for waste. The cost of zinc, if let, being, say 7d., there is only the profit to add to this sum.

60 ft. super. No. 14 gauge zincs in soakers, 12 in. by 8 in., fixed by slaters:—

The cost of this is about 5d. per foot super.; cut to shape, and add 2d. for slaters fixing it. This brings the cost to the same as the last item.

BILL No. 11.

GLAZIER.

51 ft. super. 21 oz. sheet-glass, and glazing in squares under 2 ft. super.:—

The best method for the glazing is to let the work to the merchant as "fetched, glazed and delivered." This saves you risk, and you get it done as cheaply as you would at your own shop; all the prices I give are for "let" work, unless otherwise described. The quality is not here given, and there are *five; 2nds* is usually used. The cost is 3½d.; add profit to this.

53 ft. super. 21 oz. best sheet, and glazing as before, but under 4 ft. super.:—

Add nothing for increase of size; the prices given will include up to a fair ordinary size; add ½d. for quality, making 4d., and add profit to this.

21 ft. super. 21 oz. best sheet-glass, and glazing under 6 ft. super:—

Price this at the same rate as last.

8 ft. super. 21 oz. sheet, &c., as last, not exceeding 8 ft. to the square:—

Price this at the same.

15 ft. super. 21 oz. matted sheet-glass, and glazing in squares under 6 ft. super.:—

This costs about 2d. per foot super. beyond the plain sheet, and add profit—say 6½d. in all. Some merchants do not charge as much as 2d. in excess of the plain sheet for "matted."

35 ft. super. 21 oz. matted sheet, &c., as last, but under 3 ft. super.:—

Price this at the same rate as the last item.

14 ft. super. 21 oz. matted sheet and glazing as last, but under 7 ft. super.:—

Price this at the same rate.

13 ft. super. Hartley's ⅛ in. rough plate-glass and glazing in squares, under 4 ft. super.

The cost of this is about 3½d. per foot super., glazed complete, as in the other items; add profit to this.

11 ft. super. Hartley's ⅛ in. rough, &c., as last, under 5 ft. super.:—

Price this at the same as the last item.

55 ft. super. British polished plate-glass, and glazing in squares under 5 feet super.:—

This is an article that varies very much; the manufacturers and holders often meeting and agreeing to raise and keep the prices to a certain standard, then issuing a new tariff, which is kept to by a few of the foolish ones, who, to keep to their promises, sell only by the tariff, until they find out that the larger part of their number is selling as it chooses to get orders; then a collapse comes and a lower tariff is issued. The same thing is often done by the drainpipe makers with like results. Where there is a large quantity of plate-glass, and if the estimator wishes to get the work, it will be wise to get a price, or a quotation of the best discount off the existing tariff. This tariff is the same with all sellers. The cost of squares under 5 ft. super., glazed, complete, is 1s. 7½d., to which add profit.

29 ft. super. British polished plate as before, but under 6 ft. super.:—

The cost of this is 1s. 8d., to which add profit as before.

12 ft. super. British polished plate as before, but under 7 ft. super.:—

The cost of this is 1s. 8½d. per foot super., to which add profit.

155 ft. super. British polished plate-glass, as before, but under 10 ft. super.:—

This is a large item for a house of this size. It is best, when getting a quotation for the actual carrying out of the work, to send the merchant the exact sizes the sheets will be required to be cut. The cost of this item is 2s. per foot super., to which the profit has to be added.

18 ft. super. British polished plate-glass and glazing in squares under 9 ft. super., in indiarubber:—

The cost of this, including glazing in indiarubber, is 2s. 2d. per foot, to which add profit.

Leave all glass clean and perfect.

Cleaning the glass I priced at the beginning. A small sum must be provided for replacing broken glass—say, 10s.

BILL No. 12.

PAINTER.

TWO OILS BEFORE FIXING AND TWO OILS AFTER FIXING, ON THE FOLLOWING.

224 ft. run. Bar:—

The value of ordinary runs in four oils painting, 12 in. wide and under, is 1d. per foot, where the bar and small things are included; and where they are separated, price the bar at ½d. per foot, including profit; the cost of 4 oils in common colours, including knotting and stopping, is 8d. to 9d. per yard, and the value, say with profit, 10d. per yard super. Feet run I should price 1¼d., except the item of narrow ones.

135 ft. run. Rain-water pipe:—

Price this at the 1¼d. given above; this sum includes profit.

No. 16. Bends:—

There is very little extra in these; 2d. will cover it, inclusive of profit.

No. 1. Head:—

The pipe is almost sure to be taken up to the eaves gutter, so there is only the additional surface, say 6d. including profit.

315 ft. run. Eaves gutter, in and out:—

This (4 in. by 3 in.) girts about 18 in., measured both ides, say 1½d. per foot, including profit.

No. 13. Angles:—

This should not be priced; the item of "angles" in "Smith" is "extra only." The gutter is taken through—*i.e,* angles measured in.

KNOT, STOP, PRIME AND PAINT FOUR OILS ON THE FOLLOWING.

415 yards super. Woodwork (generally):—

This and the following items have, according to the heading, to be painted five times: to the price given for four coats add 2½d. per yard; this makes 1s. 0½d. per yard super., including profit.

125 ft. run. Skirting:—

The price of 1¼d. per foot run, including profit, will cover this, as a lot of it will be under 12 in., and the difference will cover the cost of the other coats. Some surveyors bill these "runs" in *yards:* it will be necessary to look for this to avoid error, if you are pricing in haste.

125 ft. run. Stair margin:—

Add ½d. to the price of the last item for labour on this, including profit.

198 ft. run. Turned balusters:—

Price these at the same rate as given for the runs, 1¼d., including profit; they are more trouble, being turned.

No. 114. Frames:—

It is mostly the custom for surveyors to double the frames for painting; this item, where it is done, representing 57 frames painted both sides. It would be very much better if surveyors in *all* cases stated clearly what they had done, this item, where priced by the two lowest estimators differently—*i.e.*, the one pricing for one side painting and the other for two, might be sufficient to lose the careful one the work. There is very little doubt that in this case 57 is the number of the frames. No ordinary dwelling would have anywhere near 114 frames in it. I have had to price many sets of quantities for public or large buildings, where experience cannot tell what is intended, or guess which is correct—one side or two. In some cases the surveyors say "one side," or "both sides." A fair average for frames is about 2½ yards, or, say; about 22 ft. run; price this at ¾d., including profit for one side, exclusive of the sashes, which are taken farther on; if the frames are supered, about two-thirds only of the price of 10d. should be used for one side.

No. 2. Large frames:—

Add 50 per cent. to the last price.

No. 8. Three light frames:—

Price at twice the item of "114 frames."

No. 2. Nine light ditto:—

A very unsatisfactory description, sometimes the joiner's bill will assist with these items, needing a better one.

Price at three times the first item of frames.

No. 17. Dozen squares:—

These are worth about (if ordinary squares) 2s. 6d. per dozen, including profit.

No. 28. Sash sheets:—

Price at 4d. each; the description is bad. This price includes profit.

No. 2. Stone chimney-pieces:—

Price these at 1½ yards super., at 10d., including profit.

The last item concludes the bills of quantities except the "Summary," into which the bills have to be carried and cast together, and the commission and lithography, &c., added; there is, at times, an item or two in the summary after the bills, and before the cast, to price, but they generally tell their own tale.

A few further words of advice before concluding this series. Be sure to have the extensions and casts checked by a careful and competent man, and, if possible, rough checked again, to see that no large error has been passed over—feet priced for yards, or *vice versâ*, the casts of the *pounds* correct, &c.

FINIS.

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